Part V: BARANGAY SURVEYS, HOMONHON ISLAND

The island of Homonhon was surveyed over four days in December, 2015. Five of the eight barangays had adequate road access and were adequately covered in the time allotted. The remaining three barangays will be surveyed on future trips. Depending on the ocean condition, Homonhon is about a three hour boat ride from Guiuan Proper to the main barangay of Casuguran. Lodging was provided in Casuguran by a local family. The survey was conducted on foot for all five barangays as most are within walking distance of Casuguran. Transportation to barangay Cagusu-an was courtesy of Cambayas Mining Company truck by way of the Mining site. The Barangay Captain of Cagusu-an, an employee of the mining company, provided transportation down to the population center and back up the mountain to the mining area by motorcycle.

Homonhon is historically significant in the Philippines as the first place that that European explorer Magellan made land fall in 1522. He put ashore on the southern coast to take on water and other supplies. Afterward he made contact with the native islanders who guided him to Limasawa Island in what is now Southern Leyte where the first Catholic Mass was held in the archipelago.

Geologically, Homonhon is of volcanic origin with a thick mantle of mineral rich deposits, mainly chromites, which are being extensively mined in the higher elevations. The highest points of the island are over 300 meters in the northern part and 200 meters in the southern section surveyed. The northern and southern parts of the islands are separated by a narrow "neck" where the lower elevations facilitate east-west travel. Evidence of volcanism is more evident in the higher elevations to the north with numerous eroded cones and drainage patterns of the uplands controlled by old lava flows. The shorelines of all areas surveyed east and west are littered with angular basaltic boulders, remnants of volcanic flows. One field-

verified lava flow is found on the coastal road from Casuguran to Bitaugan which traverses over a large flow with extensive boulder fields evident among the mangroves.

The coastal regions of Homonhon were ravaged by Typhoon Yolanda. Survey of the higher elevations in the southern half of the island reveal a landscape that has been significantly impacted my mining operations and by fire. The field survey confirmed what is visible from the satellite photo in Figure-20 below, that in addition to mountain areas that have active mining, large areas have been stripped of the organic layer on the forest floor laying bare the mineral rich clay. Some residents testify to the fact that fires were accidentally started by individuals who were making charcoal, while some that believe that the fires were intentionally started by mining interest. According to those who investigated the forest fire, there is evidence that fire razed the mountains of Homonhon in the 1980s and the mining interest at the time had denied the allegations that they were responsible for the fire. The mountains, according to the miners, burned ten years before the mining company began operations and that residents who gathered honey were the ones responsible for the fire (Japzon 2004). The government never identified the those responsible. Regardless of the cause of the fire, all that remains of the upland forest is small spindly trunks of dead trees and stumps along with new growth both natural and planted emerging from the bare clay (See Figure 19).

Figure 19: Roadside view of the highlands near the High School in Casuguran.

Mining in the Philippines faces local opposition in the form of home-grown environmentalist and the clergy with limited success. In 2012 a community activist and leader in the opposition to mining interests was killed in Salcedo, a municipality near Guiuan in Eastern Samar (Holden 2012). Other acts of violence against citizens who demonstrate against mining operations have been associated with the chromium mining on Homonhon and nickel mining on Manicani. Adequate analysis of the forces allayed against these local environmental efforts and the challenges they face is far beyond the scope of this report and the limitations of the surveyor. It is an uphill battle to say the least. Essentially, the World Bank under the guise of Globalization and the elimination of world poverty joined forces with the governments of the developing world to promote mining in the 1990's. The passage of the Mining Act of 1995

by the Roxas government promoted large-scale mining by multinational corporations in an effort to stimulate economic development. Duty-free capital equipment imports, tax incentives as well as freedom from expropriation were among the incentives provided by the act. Due to the work of successive administrations at the national level in the Philippines, mining growth was at an annual increase of 30% per year from 2004 to 2010 (Holden 2012). Government incentives are necessary to promote Philippine mining development due to the relative high cost associated with extraction, benefaction, and transport in the archipelago. Natural disasters and social instability also make mining in the Philippines a risky proposition.

The 1995 Act currently allows for two main types of large scale mining contract schemes with various levels of involvement and investment by the Philippine government. The Homonhon operation is a mineral-production-sharing agreement (MPSA) designed for properties with a maximum area of 16,200 ha and is open to domestic and foreign corporations (Mines and Geosciences Bureau, 2014). Under this agreement the Government extracts its share by way of an excise tax of 2% of the value of the minerals extracted. An additional 5% royalty tax on mineral state reservations, specially designated mining areas, is a business tax collected by the local government. Reforms are now being considered to increase transparency, streamline the tax structure, and create guarantees of a more fair distribution of benefits to indigenous people and local communities.

According to law, Mining companies must allocate 1.5% of its operating cost to Social Development Management Programs (SDMP) that benefit host communities. This is on top of the Contingent Liability and Rehabilitation Fund (CLRF) set aside for payment of whatever damages the mining activity may cause and for the progressive rehabilitation of mined out or affected areas. Several other environmental funds are also required to be put up by the mining companies to address other environmental protection measures. In a recent Administrative

Order (2015-02) from the DENR, the agency promulgated rules in an effort to clarify and reauthorize the roles in implementation of the Philippine Environmental Impact Statement System (PEISS) and the Philippine Mining Act of 1995. According to the order dated March 10, "It is the policy of the DENR to address the environmental impacts and safety concerns in the implementation, operation and abandonment/decommissioning/rehabilitation of mining projects". "This order aims to harmonize compliance, monitoring and reporting systems, and funding mechanisms in accordance with the PEISS and Mining Act requirements,"
The order will cover mining projects that are considered environmentally critical.

It is not an easy task to understand the bureaucratic maze of government agencies of any country, this is especially the case for a foreigner examining the fine points of Philippine government corporations. For mining operations, I found government the websites to be very informative and forthcoming. The following closer look, a summary of developments gleaned from government websites, illustrates the extent to which the national government is involved in promoting mining in the Philippines. Until July 2003, the agency in charge of developing Mining in the Philippines was the Natural Resources Mining Development Corporation (NRMDC). This organization morphed into the Philippine Mining Development Corporation (PMDC) a wholly-owned and controlled government corporation. The Natural Resources Development Corporation (NRDC) held 55% of the equity while the Philippine National Oil Corporation-Energy Development Corporation (PNOC-EDC) held 45%. The PMDC was attached to the Department of Environment and Natural Resources (DENR) and was designated as the implementing arm to undertake the development, promotion and management of various mining projects of designated "Mineral Reservations" with the objectives of making them revenue-generating.

One initial and primary project was to bring under government control the Diwalwal gold rush area on the Island of Mindanao. Gold was first discovered there in 1983. According to the PMDC website, the areas population exploded to over 100,000 with small and medium scale mining operations supported by miners living in squalid conditions and causing adverse effects on the environment. Disputes among miners and unsafe mining practices caused thousands of deaths. Tragically, over the course of 23 years, it was estimated that 2.7 million ounces of gold was extracted with no payment of taxes to the national government.

In 2006 the Supreme Court placed the mining operations in Diwalwal under national government control and cancelled all existing permits. Large scale operations enabled the government to exercise full environmental and supervisory control of the exploration, development and utilization of the mineral resources. The PMDC is authorized to accomplish this on their own or through joint ventures with foreign and domestic capital. After the government moved in and made room for larger operations, the small and medium scale operators were still allowed to operate in an area confined to the original rush site and the poor environmental practices were allowed to persist. Widespread mercury contamination in the water and among the miners and their families is remains the major concern. While initially focusing on gaining control of the gold on Mindanao, the PMDC was charged with revitalizing the Philippine Mining industry for all metals, country wide and promoting vertical integration from extracting to smelting and offering to the international market.

Within the PMDC, a Privatization Council and Privatization Management Office is charged with promoting an "orderly, coordinated and efficient privatization of remaining government corporations, assets, activities and idle properties which have been identified as unnecessary and inappropriate for the government sector to maintain." The North Davao

Mining Corporation and the Batong Buhay Gold Mines, Inc. on Mindanao are two mining concerns identified on the website undergoing disposition.

Through this summary bureaucratic analysis the surveyor gained a better understanding of what constitutes illegal mining in the Philippines. During the initial survey and stay in Guiuan, the surveyor was under the impression, perhaps naïvely, that most all mining activities were illegal. However, illegal mining mainly consists of mining done by subsistence miners who do not have a government permit. These miners are well known for their negative environmental impact and use of child labor. In the Mindanao Gold Rush example, the transition of Gold Mines from individual subsistence mining operations to government agency control, and then to private corporate control is interesting, but details of the projects were not found on the agency website.

There is no need to revisit earlier arguments made in this paper concerning globalization and wholesale environmental destruction, however this may be a good opportunity to briefly review the concepts of Sustainable Development. Sustainable Development is an outgrowth of international efforts to recognize the fundamental links between the environment and development. Drawing on principals of conservation and preservation of natural assets that gained momentum at the turn of the 20th Century, the United Nations World Commission on Environment and Development defined Sustainable Development in 1987 and published the principals in the report *Our Common Future.* The first principal recognizes that humans, as we seek to meet the needs of our families and communities, have always had an impact on the environment. The second principal states that this fundamental reality will not change. We will ultimately fail in our primary goals and objectives to promote the general welfare if we do not protect the resources that future generations will use to ensure their well-being. Finally, the third principal of sustainable development establishes the "living triangle" that balances action

between environmental protection, social development, and economic development. Efforts that emphasize one factor of the triangle over the other will fail the sustainability test. Therefore, in our environmental stewardship efforts we must consider the living relationships in how we conduct our business and governance as we go about developing plans, programs, and operations to promote long-term the welfare of our community. In Homonhon, expending effort in finding the truth of the matter to assign blame distracts us from working toward solutions to the realities.

Most would agree with the goals of Sustainable Development, however achieving them remains elusive at most levels of our global society. Intractable battles result and narrow interests prevail when the proponents of environmental preservation go against interests promoting economic development. The usual result is that "smart-growth" and "sustainable community" plans and models emerge that provide deceptive approximations that move us away from true sustainability principals. In much the same way, mining laws have codified provisions for sustainable practice, restoring mined land to conditions that approximate pre-mining ecosystems, and providing social and cultural support for communities. Can resource extraction really co-exist in tropical environments? The opponents are convinced that they cannot.

To the mining interests credit, they have promoted some success stories on their industry websites that point to effective ecological restoration of mined areas. Perhaps aided by the natural regenerative capacity of a tropical environment, the ecology has been restored to other productive uses that approximate a natural system. At the same time the projects provide resources that sustain the population. Any visitor to the Philippines will see a population that is an active part of the consumer economy demanding the latest electronic device and therefore helping to drive the international demand for metals. Chrome decorated jeepneys through out

the country and especially in Manila is another example. The demand for the basic commodities that provide us with whatever standard of living we can afford will perhaps increase over time.

Returning focus back to the situation on the ground in Guiuan, and the extensive level of environmental degradation that the surveyor witnessed during the short stay on Homonhon, what are the recommendations? The surveyor does not believe, the wholesale destruction of the mountain ecosystem on Homonhon is necessary to extract the minerals. The surveyor reminds the reader that the short three-day survey of Homonhon concentrated on the water resources of the five barangays located on the coastline that were easily accessible. The surveyor did not investigate in any detail the extent of the environmental degradation nor did the surveyor confirm the extent of restoration efforts. The summary recommendations will perhaps be, (as they may be throughout this report) ill-informed, and like most environmentalist recommendations optimistic and overly ambitious.

Regardless of the political and bureaucratic will to enforce mining restrictions or the effectiveness of environmental groups to curb their efforts, humans will continue to have an adverse impact on the fragile ecosystem. Coupled with the need for the people of the Philippines to make a living and the consumer driven, global capitalist growth model, what are some short and medium term actions that the stakeholders can do now? What existing programs and focus can be leveraged and expanded to improve and build back a sustainable ecosystem on Homonhon? In doing so the environment will be able to provide the inhabitants with the essential and valuable services for generations to come. To start with, if the mining company disturbs the totality of the mining claim shown in Figure-21 below, there will be little land left to support the inhabitants. A more sensible limit to mining activity would approximate the 100-meter elevation line shown in Figure-22. As can be seen on the elevation map, the

mining claim encroaches on the watersheds of the water supply streams of the surveyed barangays. This can be seen at the elevations across the neck of Homonhon from Casuguran to Culasi. The land rises to 50-meters at the highest point and the landscape along the road at the top and the downward slope to Culasi is full of surface water features. Large streams and natural ponds indicate that the water table is vulnerable to mining activity at this elevation and provides further indication that the 100-meter elevation limit may provide minimum level for protection of the watershed. Mining activities and highly denuded areas are generally confined to the higher elevations. By giving up control of this region, the area up to 100-meters should be areas of concentrated reforestation or protection from further degradation. Barangay officials in Pagbabangnan indicate that reforestation efforts are being conducted there. Also, mined out areas above 100-meters should be prioritized for reforestation, overburden from newly mined areas can replace top layers of the soil to support diverse native vegetation. As explained in the Ecological section above, such islands of diversity would provide a seed bank to provide for natural reforestation at elevations above 100-meters.

Furthermore, the surveyor doesn't see any choice but to open or maintain an effective dialogue with the legal mining companies that that has a system to monitor and review miner's compliance with the laws. The surveyor was impressed how integrated the mines are with community and one would think that this dialog is taking place at the family leve1. Unfortunately there is indication that the mining issues have divided families. As suggested by a former Mayor of Guiuan, the community and the mining interests should communicate and cooperate at all levels and come up with a plan to restore degraded areas. Confrontation is counterproductive and a no-win situation. According to a new report from Global Witness, a British environmental and corruption watchdog, there has been an increase in murders of environmentalists around the world. In the Philippines these murders, or "extra-judicial"

killings, ranks high in the number of environmentalist killed. The article goes on to acknowledge and restate a basic premise: "Across the world, industry is pushing even deeper into new territory, driven by consumer demand for products like timber, minerals and palm oil. Increasingly communities that take a stand are finding themselves in the firing line of companies' private security, state forces and thriving market for contract killers". In the Philippines 33 activist were killed in 2015. In Mindanao there were 25 deaths (Daley 2016). In the case in Salcedo where a mining opponent was killed in 2012, little has been done to bring the killers to justice. The Catholic Church, the local people, and other human rights organizations lament the will of the government to curb such violence (AHRC 2012). Until the people of the Philippines gain more confidence that the people they elect will place their interest and the interests of the environmental sustainability over that of the mining interests, there seem to be few options in the short and medium term. There are recent indications of growing political will to increase control of mining. The grassroots environmental efforts in the Philippines will continue to strengthen. Until then, cooperation over confrontation should be the rule. Martyrdom is the highest ideal, but environmentalist are typically more effective if they stay alive. To paraphrase a famous civil rights leader, longevity has its benefits. An open mind, and the ability to cooperate and communicate your position generally contributes to effectiveness.

The surveyor is not suggesting that, environmental activism should stop. But from a practical standpoint the environmental interests do not have the resources or political support to have any impact on mining activities. The mining interests know what the regulations are and they need to take the necessary steps to make sure they meet their obligations to the environment and the community. It is in the miners' best interest to do so. If the environment is degraded and the water supply is not adequate to support the population, who will they get to

work the mine? The mining companies have the resources to implement reforestation efforts and to curb illegal subsistence mining and the poor environmental practices that goes with it.

Two well publicized incidents involving the local organization Homonhon Environmental Rescuers Organization (HERO) on the island illustrate the problems of a confrontational approach. The first incident occurred in 2008. Information gleaned from "homonhon.blogsopt.com", details HERO's position and list of grievances against the miners. The entry dated September 2, 2009 is basically a petition from HERO submitted to the Sangguniang Bayan, a council of barangay captains, and is call for action. The blog goes on to document an incident earlier in 2008, where, according to the leader of the HERO group, Mr. Villardo C. Abueme, a group of protesters went to two mining operations to express their grievances and removed some property from the mine to exhibit at the barangay plaza. The highly publicized incident resulted in general condemnation in the press, and an inspection by the Provincial Government who, according to the blog, imposed an injunction until the miners complied with the law. Following these events, the mining firm countered by filing a case against the group of protesters charging them with arson and robbery in the Guiuan Municipal Trial Court. There was no information found in the online press that indicated the outcome of the trial and the last blog entry in 2009 was an appeal for financial support to assist with Mr. Abueme's group's defense.

In another case in 2013, the local environmental interests took a stand and the situation accelerated to the point where the citizens were endangered. It references an injunction, however it was not clear if this was the one imposed back in 2009 in the earlier incident, or if it was a more recent one. Mr. Abueme of HERO detailed the incident:

> On Aug 5, [2013] at around 12 noon, the concerned residents of Brgy. Canawayon were manning the barricade, which were positioned at the road near the Elementary School. A pay loader (heavy equipment) of Mt. Sinai Exploration and Development Corporation (MSEDC) arrived at the barricade, a total of 8 people, including the driver. After 15-minutes, a certain Florencio Morana Jr. rushed up towards Mr. Jaime Lao, MSEDC Operations Manager asking *"Sir, what are we going to do?"*.
>
> Mr. Lao then stepped out of the vehicle and looked in front of the pay loader where he saw the people sitting facing the heavy equipment – a group which included children. Mr. Lao then gave the order saying, "*Run them over with the bulldozer"*.
>
> The loader advanced on the group of protesters. In the process, Silvia Abug, Eduardo Sandoval, Margarita Sandoval, and her 1-year-old baby, were pushed into the bucket of the loader. They were then raised up to the air and shaken up, down, and sideways for about 10-minutes. Unidentified security guards also began shooting at the group of protestors. The barricade was set up on August 1 following the expiration of a Temporary Restraining Order to MSEDC.
>
> Abueme added: "Atrocities made by all mining companies in Homonhon intensify because it is very apparent that they enjoy the protection and blessings of concerned local government units and these government agencies which should act to regulate and protect the environment."

In another eye witness account to the Canawayon incident, a visiting environmentalist posted a response to Abueme's description of the facts and noted some ironies in the conflict between miners and anti-mining interests. The environmentalist, who worked for an NGO, observed that some of the individuals opposing the miners were former employees of the mines and may have been involved in small scale mining themselves. Also the road that was blocked was a public road and therefore illegal. By involving children in the protest and endangering an infant the protesters acted irresponsibly. The account went on to say that the security guards fired their weapons in the air in an attempt to de-escalate the situation that was causing panic among the non-participants and no citizen was targeted. The blogger noted other rumors and information among the citizenry that the HERO organization is being used to solicit financial support primarily for personal gain (ATM 2013).

Online sources indicate that this high profile incident was reported to Philippine human rights groups and to the relevant government agencies who were petitioned to act and protect citizens rights to protest and defend their homes (ATM 2013). Any follow-up actions that went beyond officials issuing statements of condemnation was not determined by the surveyor.

Based on the evidence from online sources and my field survey, any response was ineffective in curtailing mining activities to any extent or duration.

With the new administration in the Philippines there was initial encouragement that there would be real change, and the environment would be prioritized, but as we see in areas that are rich with resources such as the United States, officials may be elected on environmental platforms or make strong enforcement promises when in office, but when they realize the full scale of the economic impact of resource extraction activities and business, they become co-opted by the moneyed interests. Understanding these realities in the US, well funded environmental groups such as the Sierra Club, and the Environmental Defense Action Fund, support efforts at the grass roots level and use the court system to push for enforcement and lobby the elected leaders to enact more restrictive legislation.

In the final analysis, the Philippines already has strong, environmental stewardship rules and regulations concerning mining. A strong pro-environment platform was initiated by current President Rodrigo R. Duterte and his appointed the Environment Secretary Regina Paz L. Lopez. Secretary Lopez proposed strict enforcement of existing environmental standards and proposed that mining companies operating in the Philippines adopt the ISO 14001:2015 Environmental Management System standard as a model. While the assignment of Secretary Lopez was not approved by the Commission on Appointments the principals she promoted are still part of the focus of the new administration (Katigbak 2017). To explore this hot-button issue in The Philippines further, an internet search in the current news will reveal many recent actions and opinions of stakeholders in the county. Events are evolving too rapidly for this researcher to keep this paper up-to-date on the current situation. However, to expand into an area that is within the expertise of this researcher, an Environmental Scientist and ISO 14001

Auditor, Appendix A contains information and guidance on how communities and their Mining concerns can formalize engagement toward better Environmental Stewardship.

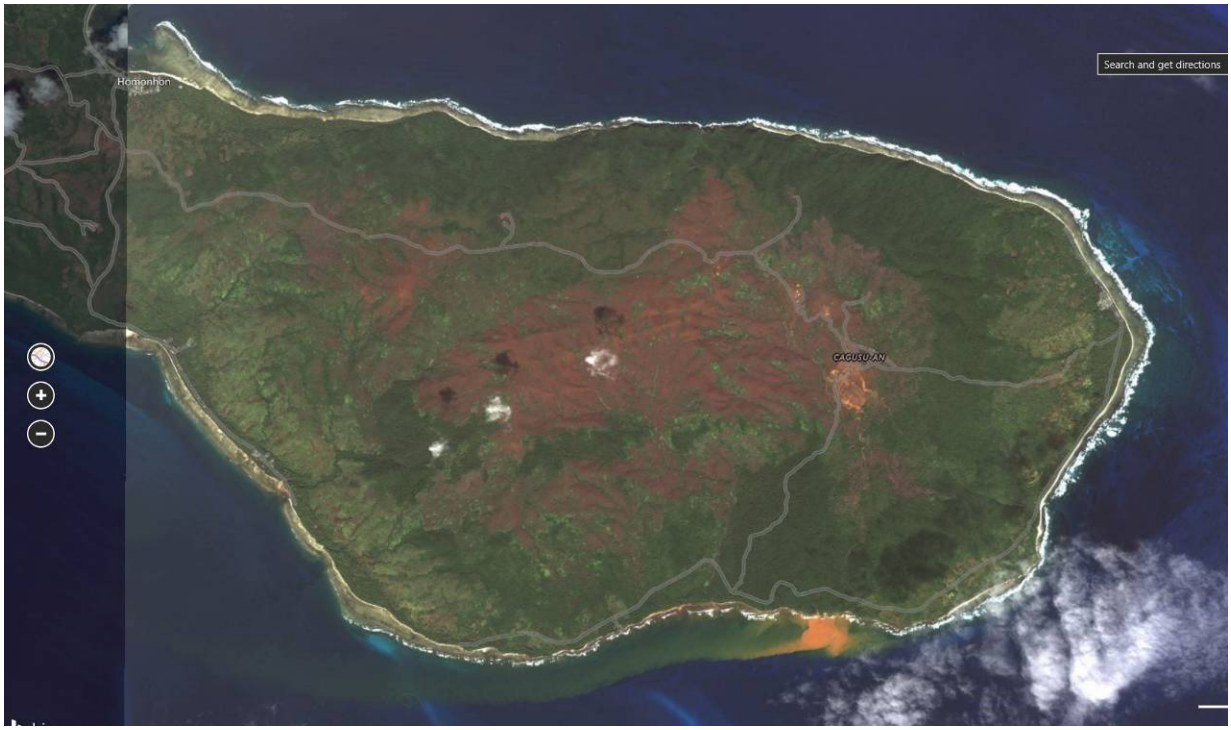

Figure 20: Southern Half of Homonhon showing mining areas, coastal contamination resulting from mining containment dam burst and widespread denuded areas. (from Google Earth)

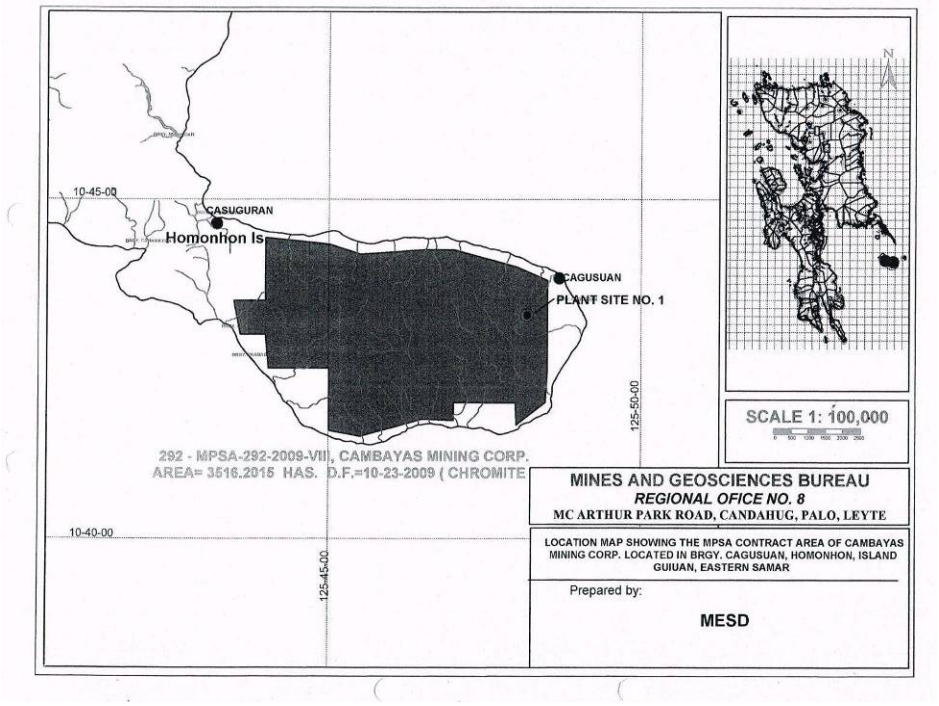

Figure 21: Mining contract areas of Cambayas Mining: Homonhon (DENR 2013).

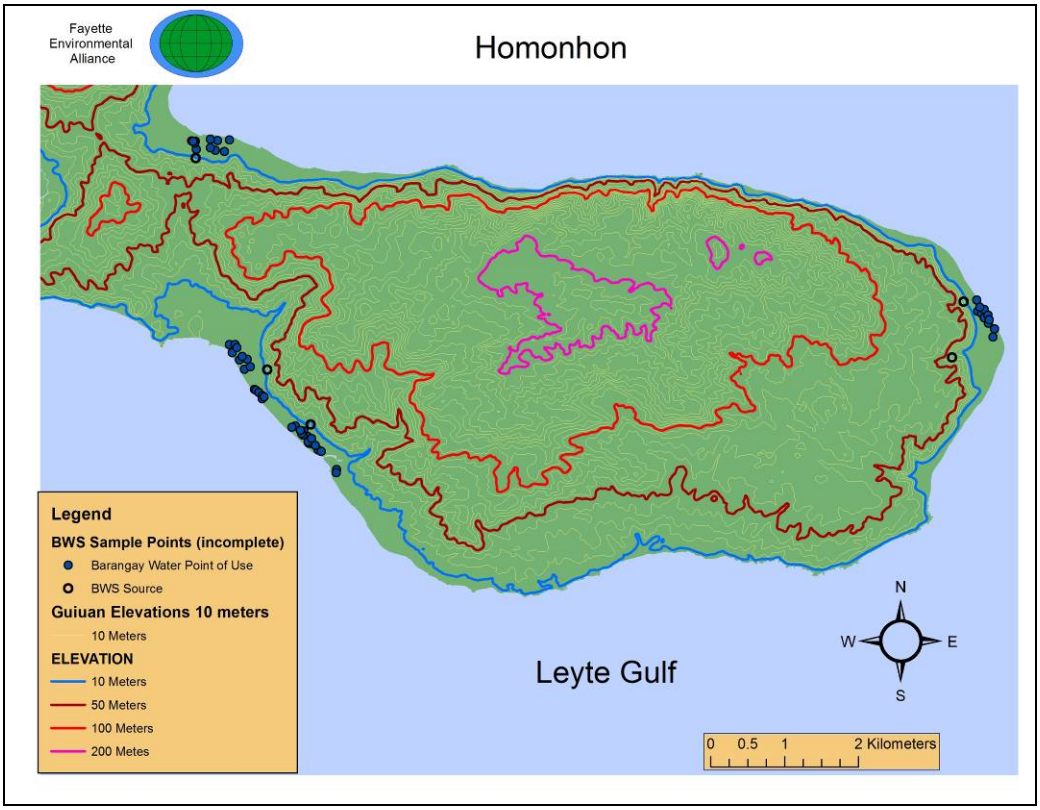

Figure 22: Southern Half of Homonhon elevations.

The impacts of Yolanda of the communities across Guiuan are being complete at a fast pace and Homonhon's recovery efforts appear to be in the final stages as of December 2015. Schools are rebuilt and essential community functions are restored. As would be expected, differences are mainly associated with the population of individual barangays and the type of commercial establishments that can be supported. Despite anecdotal negative information about mining operations on Manicani and Homonhon received during the surveyor's six month stay as a Peace Corps Volunteer in Summer and Fall of 2014, the surveyor did not observe any negative impacts of the mining operations on the costal communities during the short and limited survey on Homonhon.

During the course of the survey of the water resources of the villages was the only time that the surveyor deliberately solicited information about mining effects on surface waters or wells. As a courtesy to the mining company employees, the surveyor respected their request not to take any pictures along the road while hitching a ride from Casuguran to Cagusu-an. However the impact of the mining activity along with the areas stripped by fire and mining are clearly identifiable from the satellite photo in Figure 20 above. Otherwise, no negative information about the mines was volunteered by the inhabitants. Workers with hard hats and steel toed boots, observed traveling back and forth from work provided some of the most obvious evidence of the economic impact the mines have on the community. The lodging of the surveyor was secured at the home of a former mining engineer, now deceased, whose daughter was a supervisor at the mining operation. She was instrumental in helping the surveyor arrange some of the travel through the mining areas on the mining company truck. A surprise of the entire experience of Homonhon was the ease at which the surveyor was able to access the large mining area in the southernmost barangay. On the way back from Cagusu-an, the surveyor was treated to refreshments on the front porch of the Cambayas Mining Company Administration Building.

As noted in the ecological sections above, the natural recovery of the landscape is possible over long periods of time and can be accelerated by concerted support efforts on the part of the stakeholders in the communities. The higher elevations on Homonhon, while extensively impacted by natural and human forces and can best be described as desolate, there are signs of deliberate efforts at reforestation. Cambayas operates a plant nursery and there is ample evidence of reforestation along the roadside and in the denuded areas that may of may not be recovered mine areas.

Of the five barangays surveyed, the population is primarily served by surface water sources. Stream capture boxes are situated at about 10-meters elevation and piped to the population centers. Accordingly, only a few dug wells were found and used exclusively for utility purposes. Only a handful had functioning jetmatics. Because of the few wells, they are graded on aggregate. Stoppers at the end of hoses were typically employed. As with other barangays of Guiuan, the five barangays surveyed had destroyed "solar" tanks that once were part of the Barangay water supply.