

## Part VI: 2018 FOLLOW UP AND FINAL THOUGHTS

### *Continuous Improvement Revisited.*

During the July 2018 return visit the volunteer was able to resample wells to determine generally what level of improvements have been made since the extensive sample of 2014. Also, as indicated in another section, the initial survey of the barangay of Hamorawon on Manicani Island was completed during the 2018 visit. The sample transected through barangays, Sapao, Cantahay, Salug, Lupok, Bungtod, Barbo, among others. Contaminated wells were targeted and general improvements noted with wells along the way.

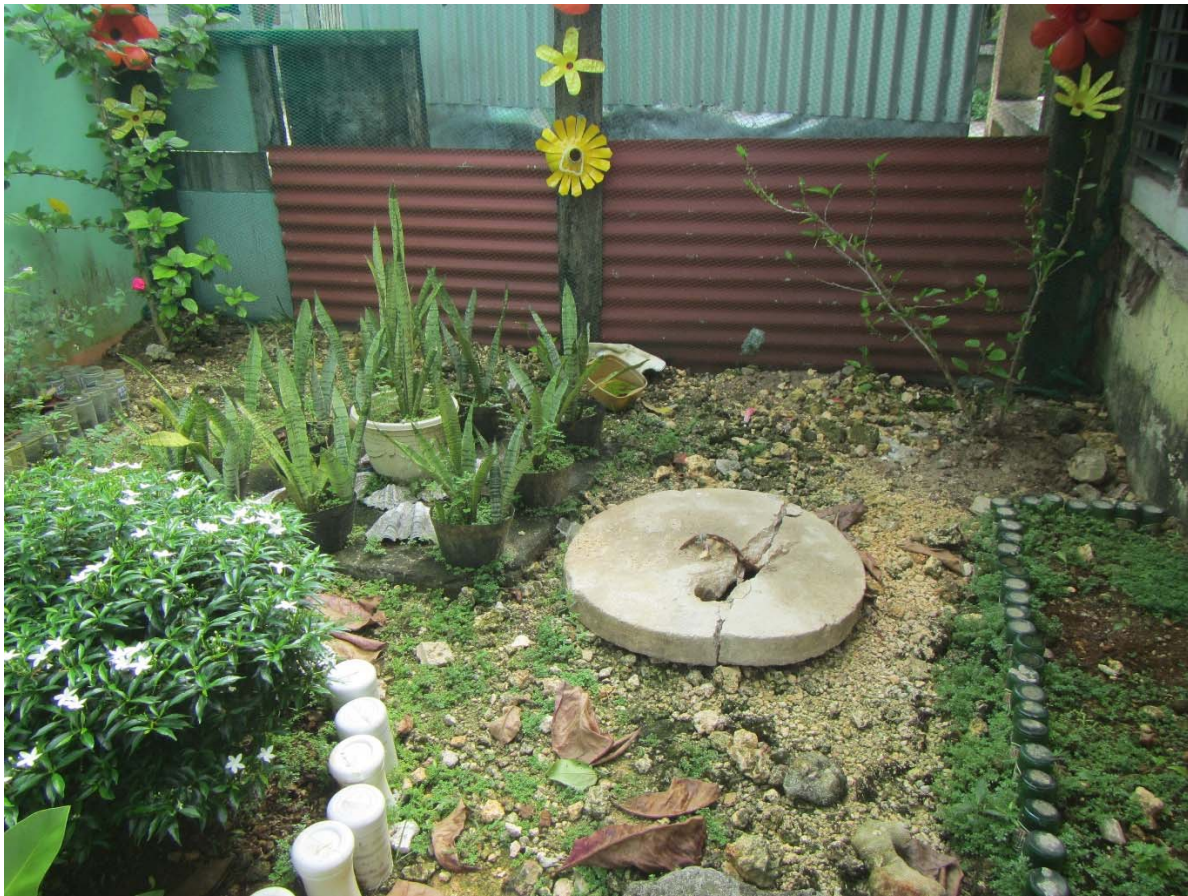
The results below are presented in before and after format and nominated for award or recognition as “best design”, “most improved”, etc. Consequently, with this limited 5-day resample many improved wells were missed. Perhaps a more comprehensive programme as suggested in the *Continuous Improvement* section above could provide recognition.

### **Most Improved well.**

#### **Well 36 Lupok**



**Before (2014)**



## After (2018)

Lupok 36 is the water supply for a the Seabreeze Pensione seaside lodging, shown below.

Locations are approximate. Here we get an idea of the amount of damage after the typhoon and amount of debris that had to be managed. It is hard to imagine how this could be the same place.



Facilities such as these received priority during the initial stages of the recovery. They were essential housing for relief agency personnel. The volunteer stayed in a single-family residence, while his UN - Habitat counterparts stayed here. Large international organizations took over the major hotels. Overnight stays in the far-flung areas were spent in a barangay leader's home. Guiuan today boasts of a new modern hotel downtown, with all modern amenities.

## Contaminated Well Recovered

### Well 23 Salug



### Before (2014)



### Before (2014) Side View



### **After (2018)**

This is one of the contaminated wells noted in the initial survey. During the 2018 survey, the volunteer purposely looked for improvement along the trail in recovering or sealing wells that had become trash receptacles. This one is included because it was the only example of a contaminated well having been recovered and cleaned to use as utility water. Noted throughout this report, the recovery of contaminated wells should be prioritized. The volunteer is not sure why the Put-Put (bicycle with side car) frame is there. Perhaps for additional protection or to get it out of the way. Put-puts were the preferred public transportation method of the Volunteer.

**Well 30 Sapao: Superior design in improvement.**



**Before (2014)**



**After (2018)**

## **Well 30 Sapao: Superior design in improvement.**

The lady of the house was quite proud of the improvements she has made on her well. She emphasized that the added security of a locked cover was not to avoid sharing with the neighbors, but that she needed to exercise additional control to prevent contamination by careless youth and unsupervised access at night. This well would score 10+ on the scale of improvement. It is secured, but the cover can be accessed by the elderly and children. She said that the marks of the high water from the typhoon are still visible on the sides of the well.

## **Most improved barangay: Barbo.**

The Barangay Captain of Barbo accompanied the volunteer on the initial survey of his village in 2014. He was interested in explanations of the benefits of well improvement and was keen to show some innovative designs for covers that he had championed. Also, the volunteer has been in contact with the Barbo leader since then through social media and he informed him that many the recommendations had been implemented. On the revisit in 2018 the volunteer made a point to revisit Barbo and do a resampling. The results here are necessarily anecdotal and by no means scientific, however, there was ample evidence of continual improvement. The contaminated well could not be located and it was assumed to be remedied and covered. It was in a natural area and banana plants had taken over its location. All wells were adequately covered in the target area, Barbo. The overall score of the state of improvement was perhaps increased by two or three points by rough estimate. Once again, the volunteer must emphasize that these results do not represent Guiuan-wide improvements and are only examples that were witnessed.

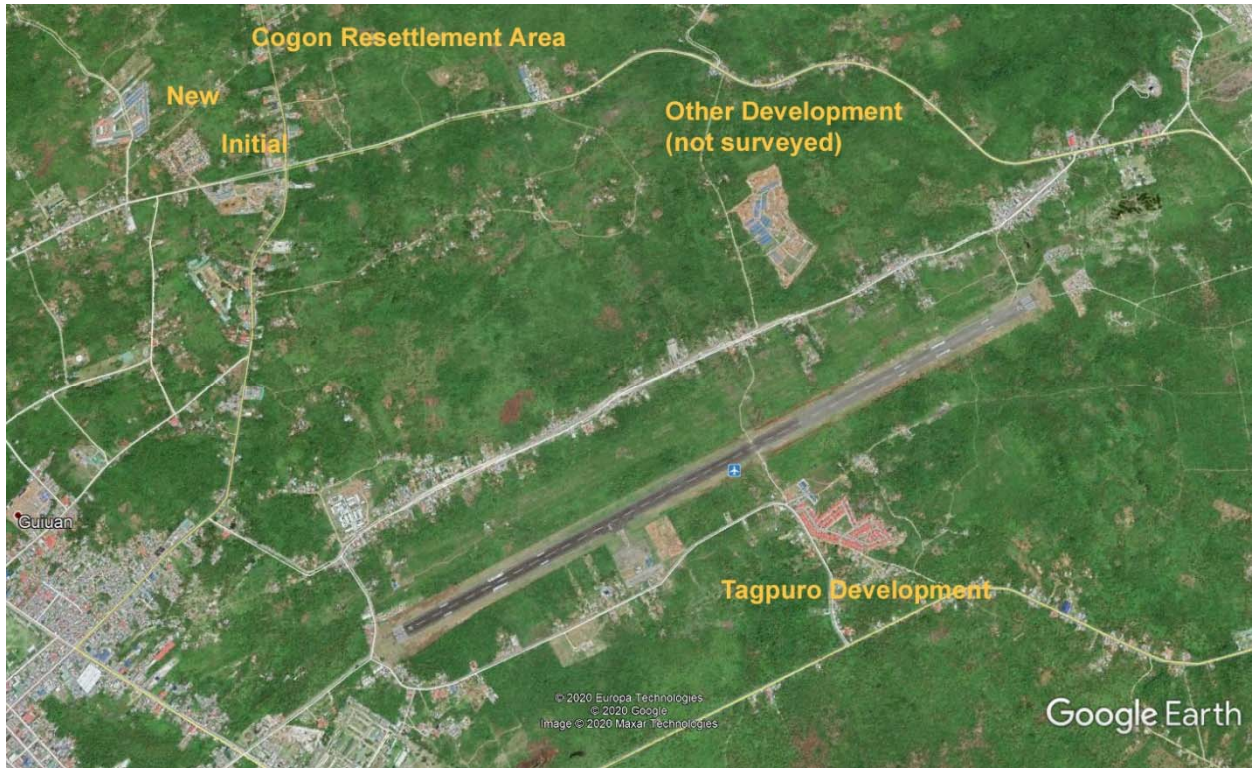


**Volunteer enjoying refreshments along the survey trail in 2018.**

Often, the volunteer was the recipient of many invitations to enjoy the famous hospitality of the Filipinos. This along the high road of Lupok. Welcomed refreshment and rest. Cultural note: Americans on vacation are easily recognized around the world by short pants and bare legs. The volunteer always wore long pants at the office and in the field while serving in the Peace Corps.

***Resilient Housing.***

During the volunteer’s most recent visit to Guiuan, the recovery and rebuilding was mostly complete and the building of large complexes of resilient housing was going well. As is the case country-wide there is a need for low income housing. Of course, there are many obvious reasons for this other than disaster planning. Informal housing settlements that spring up here and there are not well supported in terms of utilities, water and sewer/septic services and have a negative effect on the environment, not to mention delivery of other essential services such as education, health, spiritual and so on.



**Guiuan Resettlement Areas (image retrieved 11/1/2020)**



The Cogon and Tagpuro Development were extensively surveyed during the 2018 visit. Indications are that communities remained intact during resettlement and provisions for essential services such as water, drainage as well as recreational and community centers were well supplied. The pictures shown here are of the Cogon (new) area. Cogon was the site of the (initial) temporary housing established during the volunteer's 2014 stay.

Personal note: The volunteer has a nephew with a young family in the province of Negros Oriental, three islands west of Samar in the Visayas. He is negotiating the purchase of a unit in a complex of similar design. The entry costs are reasonable, and he is encouraging the volunteer's wife (a Philippine native) to invest in this ground floor opportunity.





### ***Risk Planning and Preparedness: Final Thoughts.***

As Local Leaders of Guiuan realize, in face of multiple disaster threats, there are no safe or unsafe zones, there are only places of varying risks and the people's resilience when the disaster occurs. Vulnerabilities of the tropical island nation to typhoons, earthquakes, landslides among others will only increase in a warming world and increasing demands we place on our land due to growing populations. The volunteer has witnessed firsthand the spirit of the people and leadership as they bounce back from one of the largest disasters to strike the country. Guiuan is blessed with a landscape and people that have a high capacity to recover.

In all areas of the world, humans have an innate ability to adapt and bounce back from disaster, and fortunately life returns to normal relatively quickly in human time scales. We want to forget the most recent "unpleasantness" and go on dealing with the daily trials, tribulations, drama, and humor that sustain us. The next festival or party preparations are high on the priority list. In the longer-term view, the efforts to build more resilient housing is a part of it but building back temporary informal housing out of the rubble days after the storm is too.

Sharing, outside help, and meeting the basic needs following emergencies are all part of the effort as we plan for the inevitable, but we must do it quietly so no to offend the spirits and bring on bad luck. This is not an attempt at humor, folks in the Philippines are a religious people and depend on Divine Providence to protect their families and they work hard trying to keep the evil spirits at bay. Any preparation or plan must acknowledge this reality and not dismiss it as mere superstition. Preparation cannot be viewed as wishing for bad luck and prayer coupled with deliberate effort aimed at reducing risk and preparation must be ongoing. Typhoons are inevitable with dozens each year but predicting and preparing for landslide or earthquake and tsunami risks is tricky.

The volunteer's next project is to analyze the landslide risk preparation of Southern Leyte. They experienced a large landslide in 2013 with thousands lost. Since then there has been substantial GIS mapping effort by multiple agencies to analyze risk and vulnerability zones. The volunteer is interested how these have been incorporated into local plans to prepare for disaster. Southern Leyte is where the volunteer had his first Peace Corps experience in 1979 to 1981. The surveyor expects to find local leadership to be as forward looking and progressive as they are in Guiuan. Of note, the provincial leaders there have outlawed cigarette smoking and enforce universal helmet wearing for motorcycle riders. These are common initiatives found throughout the Philippines. Rounding up stray dogs and limiting noise in the communities across the islands are among other favorable actions to improve paradise. Stay tuned for a more detailed analysis.

## REFERENCES

- Aller, L. et. al (1987). DRASTIC: A Standardized System for Evaluating Ground Water Pollution Potential Using Hydrogeologic Settings. USEPA/600/2-87/035. US Environmental Protection Agency, Ada, Oklahoma.
- AHRC (2012). *Philippines: Murdered mining activist knew he and two others would be killed*. Asian Human Rights Watch. Online source. <http://www.humanrights.asia/news/urgent-appeals/AHRC-UAC-120-2012>.
- ANSI (2004). *ISO 14001:2004. Environmental Management Systems*. American National Standard Institute. Washington DC.
- ASQ (2014). Plan-Do-Check-Act. American Society for Quality. Online reference. <http://asq.org/learn-about-quality/project-planning-tools/overview/pdca-cycle.html>.
- ATM (2013). *Miners assault Homonhon island residents with pay loader machine*. Alyansa Tigil Mina. Online source. <http://alyansatigilmina.net/2013/08/12/press-release-miners-assault-homonhon-island-residents-with-pay-loader-machine/>.
- Brand, F., Jax, K., (2007). *Focusing the Meanings of Resilience: Resilience as a descriptive concept and Boundary Object*. Ecology and Society. 12(1):23.
- Briola, Jerbert. (2012) October 20. GMA News Online. Church groups lament LGU failure to enforce law in E. Samar's mining-hit areas. Retrieved on 3/17/2016 from: <http://www.gmanetwork.com>.
- Broad, R., Cavanagh, J. (1993). *Plundering Paradise: The Struggle for the Environment in the Philippines*. University of California Press: Berkley, California.
- Boyce, J. (1992). *Of Coconuts and Kings: the Political Economy of an Export Crop*. Development and Change, Vol. 23, pp. 1-25.
- Brown, M. (2005). *Landscape Restoration Following Phosphate Mining: 30 years of Co-evolution of Science, Industry and Regulation*. Ecological Engineering 24(2005) 309-329.
- Dale, W., et al. (1987). *Coral Island Hydrology*. Department of Scientific and Industrial Research, New Zealand. Commonwealth Science Council. London.
- Daley, J. (2016). *Murder of Environmental Activists Reaches All-Time High*. Smithsonian.com. Online Source. <http://www.smithsonianmag.com/smart-news/murder-environmental-activists-reaches-all-time-high>.

- DENR. (2013). *Report on the Integrated Safety and Health Environmental and Social/Community Management Programs/Activities of Cambayas Mining Corporation (CMC)-Chromite Mining Project in Homonhon Island, Guiuan, Eastern Samar*. Mining Environment and Safety Division. Mines and Geosciences Bureau. Department of Environment and Natural Resources. Regional Office No. VIII. Republic of the Philippines. July 28, 2013.
- Fetter, C. (2001). *Applied Hydrogeology*. Prentice-Hall Inc. Upper Saddle River, New Jersey.
- Fong-Sam, Yolanda (2013). *The Mineral Industry of the Philippines: 2013 Minerals Yearbook*. US Geological Survey. US Department of the Interior. Released March 2016.
- Holden, W. (2012). *Ecclesial Opposition Large-Scale Mining on Samar: Neoliberalism Meets the Church of the Poor in a Wounded Land*. *Religions* 2012:3.833-861.
- Heyerdahl, T. (1950) *Kon-Tiki: Across the Pacific by Raft*. Mattituck: Amereon House.
- IBRD. (2010). *Valuing Protected Areas*. International Bank for Reconstruction and Development. Washington DC.
- Japzon, M. (2004). *Samar Folk Struggle to Regain a Paradise Lost*. *Bulatlat* Vol. IV. No. 39. Oct 31-Nov 6, 2004. Alipato Publications. Quezon City, Philippines 2004. Online source. <http://bulatlat.com/news/4-39/4-39-homonhon.html>.
- Katigbak, T. (2017) *Communication is Key in Ongoing Mining Debate*. August 7, 2017. Philstar Global. Online source. <http://www.philstar.com/opinion/2017/08/07/1725979/communication-key-ongoing-mining-debate>.
- Lin, L. (2008). *Edge Effects on Soil Seed banks and Understory Vegetation in Subtropical and Tropical Forests in Yunnan, SW China*. *Forest Ecology and Management* 257 (2008) 1344–1352.
- Marler, T. del Moral, R. (2011). *Primary Succession along an Elevation Gradient 15 Years after the Eruption of Mount Pinatubo, Luzon, Philippines*. *Pacific Science*, 2011; 65 (2): 157.
- Mihelcic, J. et al. (2009). *Field Guide to Environmental Engineering for Development Workers: Water, Sanitation, and Indoor Air*. American Society of Civil Engineers Press, Reston Virginia.
- PCA (2014). *Historical Perspective*. Philippine Coconut Authority. Office of the President. Online source. <http://www.pca.da.gov.ph/hcip.php>.
- Randolph, J. (2012). *Environmental Land Use Planning and Management*. Island Press. USA.

- Reyes, M. , Mendoza, V. (1983). *The Pantabangan Watershed Management and erosion Control Project*. in Forest and Watershed Development and Conservation in Asia and the Pacific. Lawrence S. Hamilton, editor. East-West Environment and Policy Institute. Westview Press, Inc., Boulder, Colorado.
- Scholze, O., Hillmer, G., Schneider, W., (2002). *Protection of the Groundwater Resources of Metropolis Cebu (Philippines) in Consideration of Saltwater Intrusion into the Coastal Aquifer*. 17th Saltwater Intrusion Meeting, Delft, The Netherlands.
- Stilling, P. (2002) *Ecology: Theories and Applications*. Prentice-Hall. Upper Saddle River, New Jersey.
- Travaglia, C., Baes, A., Tomas, L. (1978). *Samar Island Geology*. Soil and Land Resources Appraisal and Training Project, Philippines. Bureau of Soils, Department of Agriculture United Nations Development Programme, Manila.
- Urich, P. et al. (2005). *Karst Information Kit for Environmental Management Decision Makers*. Soil and Water Conservation Foundation Publication, Cebu City, Philippines.
- U.S. Navy Department Library, (1946). Building the Navy's Bases in World War II. History of the Bureau of Yards and Docks and The Civil Engineer Corps 1940-1946. Volume II. Part III. The Advance Bases. Chapter 29. Bases in the Philippines.