

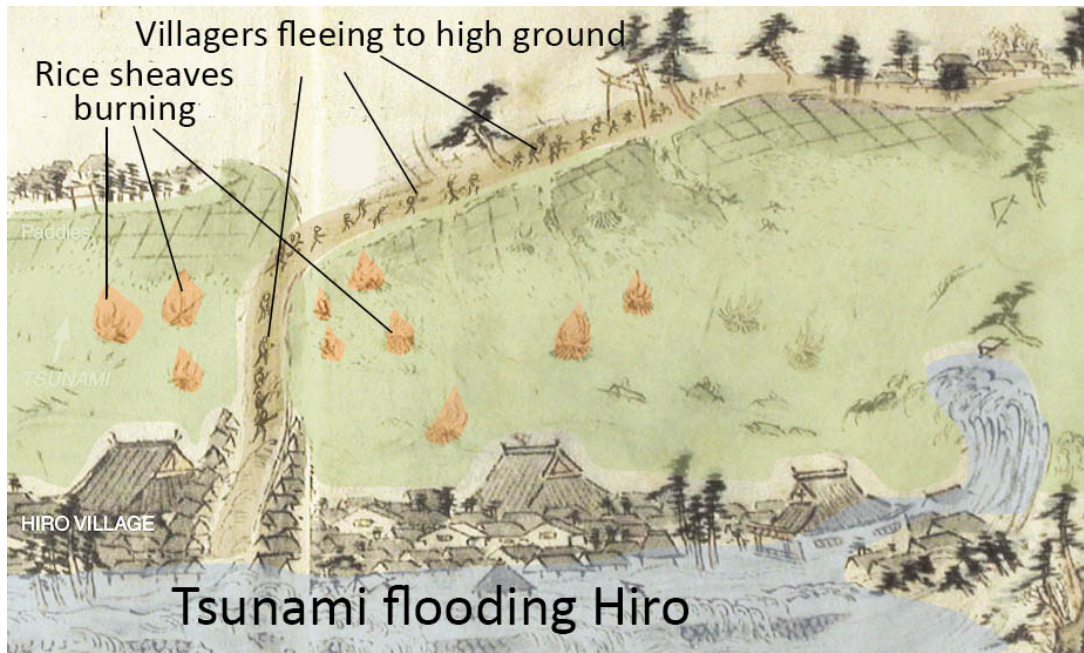
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Not My Fault: World Tsunami Awareness Day is all about valuing our community

Lori Dengler for the Times-Standard

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The Rice Sheaf Fire painted by Furuta Shōemon soon after the 1854 tsunami, reproduced in Atwater et al, The Orphan Tsunami. Colorizing is mine to accent the tsunami, the villagers, and the fires. Original painting at Yogen Temple in Hirogawa.

Hamaguchi Goryo lived in the town of Hiro on the south coast of Japan's main island of Honshu where the city of Hirogawa stands today. His family were soy sauce brewers and merchants and Goryo was well-educated in the natural sciences, martial arts, and kendo – Japanese swordsmanship. He also wrote poetry. He was well respected in the village and in 1854, inherited the position of head of his family clan. Late that same year, two great earthquakes struck offshore of Japan's south coast. Following the earthquake on December 24, Goryo set some of the piled rice sheaves on fire, to get the attention of villagers and guide them safely up the hillside to high ground away from the coast.

The account became known as "Inamura no Hi" or the Rice Sheaf Fire and became part of Japanese folklore. It made its way into English literature when Lafcadio Hearn wove the Hiro account and stories from the great 1896 Sanriku tsunami into his chapter "A Living God" into the book "Gleanings in Buddha-Fields" published in 1897.

Born in Greece, Hearn emigrated to the U.S. at age 19, spent time as a correspondent in the French West Indies, and moved to Japan in 1890 during the rapid modernization and opening to

the west of the Meiji era. Closed to the outside world for over 250 years during the Tokugawa Shogunate, this was a time when all things Japanese fascinated Europe and the western world with works of art, literature, and music – Puccini’s opera *Madama Butterfly* debuted in 1904. It was based on an 1887 French novel with a similar theme.

Hearn’s writings quickly gained popularity in the west, providing a glamorized vision of Japanese culture and history. I read Hearn’s *A Living God* account in the 1990s when I first began to work on tsunami curriculum. It was a compelling story and many variations of it have been published. I am very fond of an animated version “*The Wave – A Japanese Folktale*” which I incorporated into one of our Kindergarten – 2nd grade activities.

The Wave features Ojiisan, the wise old grandfather and his grandson Tada. The simple animation is appealing to young children and Tada is distraught when after an earthquake, his grandfather sets fire to the precious rice that should feed the villagers through the winter. The anger of the villagers racing up the hill to put out the fires turns to praise when a tsunami wipes out where they had been standing only moments before.

The real story of Hamaguchi Goryo is much more interesting. Goryo was only 34 when these events unfolded and certainly not a grandfather. He was a learned man and considered an expert in biology and the natural world. Two years before the earthquake he opened a private academy for youth considered the first high school in the area and the forerunner of today’s Wakayama Prefectural Taikyū High School.

The villagers were not country bumpkins unaware of the tsunami threat. Japan has a long history of tsunamis, and a more modest one had affected the Wakayama Bay region in 1808 and on December 23, 1854 a similar-sized earthquake centered a bit further offshore and to the east had been strongly felt. That earthquake caused over 200 tsunami deaths, but they were to the east relatively far away from Hiro.

I don’t know what was in the Hiro residents’ minds when they experienced the second strong earthquake in a 31-hour span. Location and time of day likely played a role. The Tokai earthquake on December 23 occurred at 9 AM local time in Japan. It produced strong ground shaking along much of the southern Honshu coast, destroying more than 10,000 buildings and killing at least 2000 people. About 10% of those casualties were caused by the tsunami. Hiro was more than 150 miles away from the Tokai epicenter and shaking strength was modest. The tsunami reached about eight feet high in Wakayama Bay and caused no damage at Hiro. I don’t know if any of the Hiro villagers evacuated that morning – I hope they did as the shaking probably lasted a long time. But because they suffered no damage, perhaps they thought the threat was modest.

When two earthquakes of similar magnitude occur close together in time, we call them a doublet. The Tokai earthquake is estimated at a magnitude of 8.4. At roughly 4 PM local time the next day, a second M8.4 struck. It was centered directly offshore of Wakayama Bay, about 80 miles south of Hiro and 175 miles to the west of the Tokai quake of the previous day. We call the December 24th temblor the Nankai earthquake, and it had profoundly different impacts at Hiro than what happened the day before

It likely shook the Hiro villagers more strongly and caused damage to buildings. At 4 PM near the winter solstice, it was twilight and getting dark quickly. Goryo ordered others to light piles of stacked rice sheaves along the path leading uphill to provide a visible cue to Hiro residents on how to safely reach high ground. His quick thinking may have encouraged some people who were lulled by the lack of damage the previous day, but everyone in the town was well aware of tsunami threats and knew how to evacuate.

Modern estimates of the peak tsunami height in the Wakayama Bay area for the Nankai earthquake on December 24 are about 20 feet, more than twice as high as what happened the previous day and high enough to flood most of Hiro. Modern analyses of the exposed population argue that Goryo's action save 90% of the town's population.

Hamaguchi Goryo's involvement with the earthquakes of 1854 did not end with directing the rice sheaf fires. Almost all of Hiro was destroyed by the tsunami, leaving a scene reminiscent of communities after the 2011 tsunami on the Tohoku coast of northeastern Honshu. Goryo quickly took up the cause of recovery and reconstruction, providing much of the funding to restore a damaged bridge and build the Hiromura Embankment, a massive seawall. Goryo led the project not only to protect the village from future tsunamis, but to provide employment to the local population. It was this effort that gained him the epithet "living god," borrowed by Lafacadio Hearn over 30 years later.

A Japanese delegation to the United Nations petitioned the body in 2015 to name November 5th World Tsunami Awareness Day. This day was chosen to mark the date in the traditional Japanese calendar of Hamaguchi Goryo's life saving Inamura no Hi, when the actions of an extraordinary individual saved lives and helped to rebuild his community.

Community is the operative word in both Goryo's life and World Tsunami Awareness Day. In 1854, people may have been more aware of the importance of everyone's role in a community to provide sustenance and safety for all. The role of farmers, craftsmen, merchants, educators, and artists was far more transparent and easier to see.

Underneath the veneer of modern society, the same is still true today. How well we manage our next major disaster and recover from its impacts depends on all of us and on the actions and efforts taken to reduce losses before had and build back afterwards. Hamaguchi Goryo was a citizen of a small village in Japan. Because of his education, experience, and vision, he saved lives and left a lasting legacy. We should all aspire to become a bit like this "living god."

Learn more about World Tsunami Day and view the animated version of "The Wave" at <https://rctwg.humboldt.edu/world-tsunami-awareness-day>. A life history of Hamaguchi Goryo is enshrined at a museum in Hirogawa remembering the Rice Sheaf Fire https://www.town.hirogawa.wakayama.jp/inamuranohi/english/siryu_goryo.html.

Lori Dengler is an emeritus professor of geology at Humboldt State University, an expert in tsunami and earthquake hazards. The opinions expressed are hers and not the Times-Standard's. All Not My Fault columns are archived online at <https://kamome.humboldt.edu/taxonomy/term/5> and may be reused for educational purposes. Leave a message at (707) 826-6019 or email Kamome@humboldt.edu for questions and comments about this column or to request copies of the preparedness magazine "Living on Shaky Ground."