Volcanic Features and Mt. Sanbe

Volcanoes are created when magma below Earth's crust erupts to the surface as lava, gas, or ash. A volcano's shape indicates how it formed, as well as the kinds of eruptions that shaped it and the mineral composition of its lava. Mt. Sanbe is made up of lava domes, or hardened cones of lava. Lava domes are formed from especially sticky, viscous lava, which cannot flow freely and piles up into brittle, unstable volcanoes. Volcanoes formed in this way often erupt several times. As pressure builds in the steep lava dome, it eventually ruptures and erupts. The resulting lava forms a second lava dome, which itself becomes blocked, and the cycle repeats. Mt. Sanbe's four peaks of Osanbe, Mesanbe, Kosanbe, and Magosanbe, as well as the smaller peak of Mt. Hikageyama, were formed by this process over thousands of years. Lava that is less viscous and flows more freely forms broad shield volcanoes such as those in Hawaii.

Mt. Sanbe has another feature common to many volcanoes: a caldera, often mistakenly called a crater. Calderas are circular depressions surrounding the mouth of a volcano that form after the volcano's magma chamber is emptied, creating a hollow that often collapses in on itself. The world's largest active volcano, Mt. Aso in Kyūshū, has an outer caldera that measures 25 kilometers in diameter north–south and 18 kilometers east–west. The original caldera on Mt. Sanbe formed approximately 50,000 years ago and was around 5 kilometers in diameter. It remains partially visible on the southern side of the mountain.