

SANDMINING

As a resource, sand by definition is *'a loose, incoherent mass of mineral materials and is a product of natural marine processes.'* These processes are the disintegration of rocks and corals under the influence of weathering and abrasion. When sand is freshly formed the particles are usually angular and sharply pointed but they grow gradually smaller and more rounded as they become constantly worn down by the wind or water.



Black sand at Vailoa Palauli



White sand at Lano, Savaii

There are two main types of sand: white and black. White sand is the most common type of sand in Samoa and is found mainly on beaches extending outward to the sea. This is most obvious in areas like Lano (right), Lalomanu, Lefaga, Saoluafata and is the product of coral breakings and attrition by wave action.

Black sand is also found on beaches but mostly at river mouths. It is the product of rock breakings usually from running river waters and such can be found at Vaisigano, Solosolo, Solomea and etc.

The role of sand is very vital with regards to the protection of the coastal environment. It acts as a buffer against strong tidal waves and storm surges by reducing their impacts as they reach the shoreline. Sand is also a habitat for crustacean species and other related marine organisms.

Sand has become a very important mineral for our society due to its many uses. It can be used for making concrete, filling roads, building sites, brick-making, making glass, sandpapers, reclamations, and etc. Sand also plays an important role in our tourism industry as it is an integral part of our beach attractions.

Sandmining

Sandmining is a coastal activity referring to the process of the actual removal of sand from the foreshore including rivers, streams and lakes. In Samoa sand is commonly extracted from beaches and rivers, or dredged from the seabed and there is a noted increase in sandmining activities around the island. Individuals and private companies are increasingly demanding sand for construction purposes and this has placed immense pressure on sand resources.



Sand being extracted from Falelatai

Impacts of Unsustainable Sandmining

Although sand is one of the world's most plentiful resources (perhaps as much as 20% of the Earth's crust is sand) there stands the question of how long one can keep tapping this resource before it runs out. Sand does have the ability to replenish itself but like most things, this takes time. In Samoa, it is yet to be determined exactly how long it takes for a mined area to recover although this depends on amounts extracted.

Unsustainable sandmining can have some very disturbing impacts on the environment. It can cause disturbance of coastal marine ecosystems and upset the ability of natural marine processes to replenish the sand. Erosion problems may worsen especially during severe storms and may also result in the alteration of our shorelines. Mining from streams or rivers upstream can reduce water quality for downstream users and poison aquatic life. Seawater quality can be contaminated due to subsoil of the waterbed being surfaced and this may also reduce light penetration necessary for marine organisms to feed.

The Ministry of Natural Resources and Environment recognizes the threats that unsustainable sandmining poses on the environment and society. We therefore aim to work in partnership with village chiefs and orators, commercial operators, and the general public to address these issues.