



21. Tabuaeran



OFFICE OF TE
BERETITENTI

Phone: +686 21183

E-mail: islandreports@ob.gov.ki

Website: climate.gov.ki

Updated 2012 by Office of Te Beretitenti & T'Makei Services

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PHYSICAL FEATURES

Tabuaeran, also known as Fanning Island, is one of the Line Islands located at 3°51'36"N, 159°21'52"W. The maximum elevation is about 3 m (10 ft) above sea level. The island is a roughly oval coral atoll, 9.5 nautical miles northwest and southeast, by 6 miles wide. The land area is 33.73 square km.

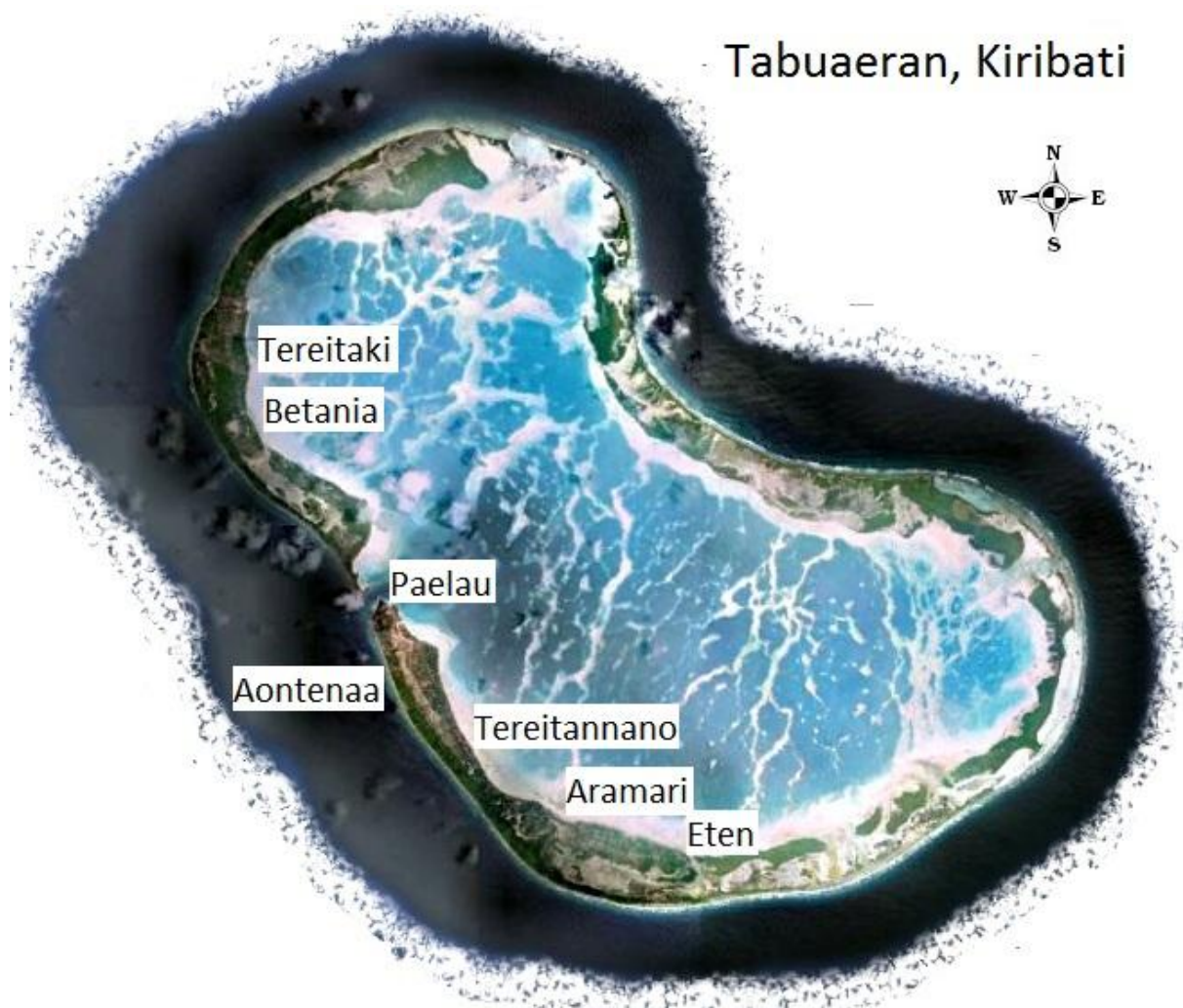
The lagoon has an area of 110 square km. The deepest water in the lagoon is about 15 metres, and most of it is very shallow. Tabuaeran lagoon is almost completely enclosed and provides a near perfect anchorage for boats. It was described by Captain Fanning in 1798 in these terms: "With sufficient depth of water through the passage for any merchant ship to pass in, and on the inner or bay side is smooth and convenient anchoring, which, together with the abundance of wood and water, the tropical fruits, best of fresh, and excellent turtle, here to be obtained, make this a very desirable spot, for the refitting of a ship, and refreshing a crew."

Tabuaeran is a low-lying atoll with a narrow fringing reef and three principal islets almost encircling a marine lagoon. The lagoon is tidal, and the surrounding brackish marshes and extensive intertidal mudflats create estuarine-like conditions. There are several small islets in the lagoon and some areas of salt pans.

Like Kiritimati island, early European explorers found an island with no resident population, although there is evidence of earlier settlement. Tabuaeran is extremely isolated, with only an irregular service by ship to Kiritimati, and no air service (although there is an airstrip).

The eight small villages of Tabuaeran are spaced along the lagoon coast on the western side of the island. The more exposed eastern side is set aside as a nature reserve. On the ocean side of the villages, there is ample Government land which is available to households under a "harvest permit" system to collect coconuts and cultivate *bwabwai* (swamp taro).

Figure 21.1:Map of Tabuaeran



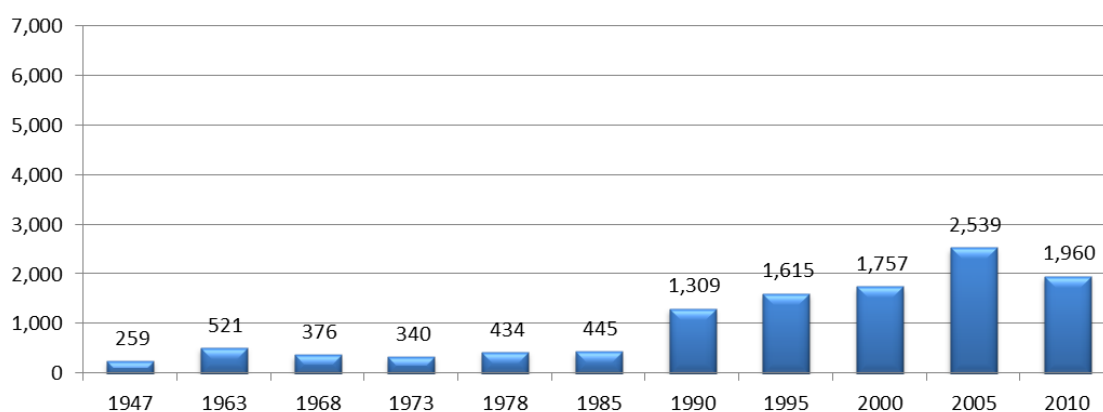
POPULATION

The population of Tabuaeran in the 2010 census was 1,960 which is lower than the 2010 census population of 2,539. The number of households has also fallen from 438 in 2005 to 348 in 2010. Residents of Tabuaeran offered the following explanations for this to census enumerators (Census Report 2010) :

- 1) people leaving the island following the temporary closure of the Mereang Tabai Secondary School (which has since re-opened);
- 2) the closure of the Norwegian Cruise Liner (NCL) Company that frequented the island in the past;
- 3) the weakness of the Atoll Seaweed Company.

As with Kiritimati island, migration of I-Kiribati from the Gilbert Islands and especially from crowded South Tarawa is encouraged by the Government of Kiribati. The longer term trend since 1947 has been for a growing population on Tabuaeran.

Figure 21.2: Tabuaeran population 1947-2010



Tabuaeran has a combined land area of 33.73 square kilometers and a population (in 2010) of 1,960, giving a population density of 58 people per square kilometer. Compared with other islands in Kiribati, Tabuaeran is one of the least densely populated islands. It is also one of the most spread out, with eight small villages spaced along the lagoon coast on the western side of the island. The more exposed eastern side is set aside as a nature reserve. On the ocean side of the villages, there is ample Government land which is available to households to collect coconuts and cultivate *bwabwai* (swamp taro).

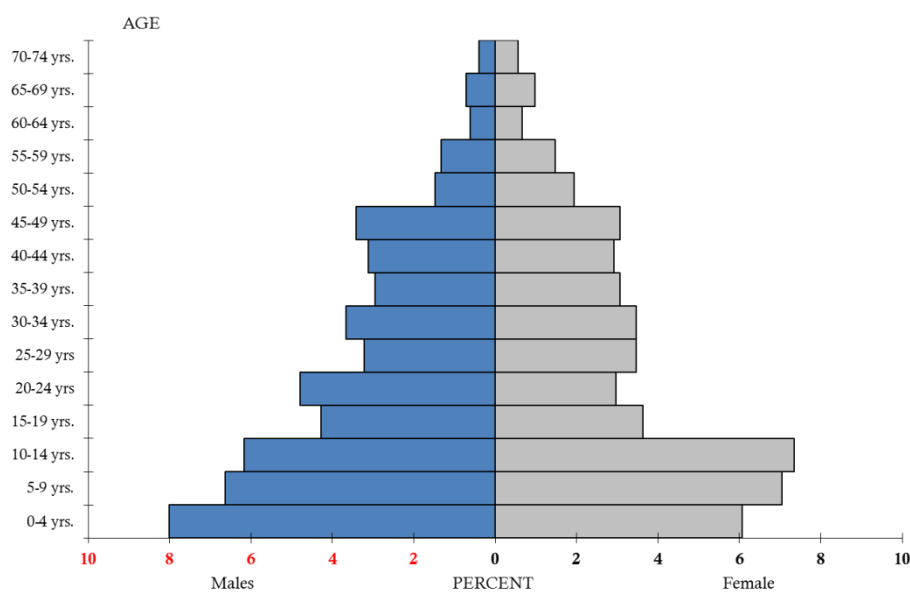
Table 21.1: Tabuaeran population by village 2010

Tabuaeran	Village	Population
	Tereitaki	346
	Betania	175
	Paelau	200
	Aontenaa	190
	Tereitannano	168
	Aramari	244
	Terine	453
	Eten	184
Tabuaeran total population		1,960

Source : 2010 Census

In the 2010 census there were 1,002 men and boys on Tabuaeran and 958 women and girls. A high proportion (41%) of the population are aged under 15.

Figure 21.3: Tabuaeran population 2010 by age and sex



Source: Census 2010

Because Tabuaeran was settled only recently, most of the residents identify themselves as being from another island of Kiribati. There are also a few residents of Tabuaeran who are from other Pacific countries. Of the people currently living on Tabuaeran, 725 were born on Tabuaeran, but only 374 identified themselves in the census as being “from Tabuaeran”.

Table 21.2: Tabuaeran population by home island

	Home island is Tabuaeran	From another island of Kiribati	From another country	Total: Population of Tabuaeran
Live on Tabuaeran	374	1,574	12	1,960
Live on another outer island	95			
Live on South Tarawa	95			
Total: People living in Kiribati who are from Tabuaeran	564			
	% of people identifying as 'from Tabuaeran' who live on Tabuaeran			66%

Source: Census 2010

LAND AND MARINE RESOURCES

LAND RESOURCES

Tabuaeran has ample land resources to support a much larger population than currently lives there. The eight villages of Tabuaeran are spaced along the lagoon edge on the Western side of the island, with large areas of Government land on the ocean side and between the villages. Roughly a third of households stated in the Census that they owned their own land, a third live on Government leased land, and a third on privately leased land. Originally, all land on Tabuaeran was Government land but many households have now earned the right to claim the land as their own under a “bought lease” agreement. In other cases the original lessee has left Tabuaeran and the land is now occupied under a sublease arrangement.

Tabuaeran is quite covered with shrubs, coconut trees, and the *bwabwai* (swamp taro) and other plantations of households. The island has a unique climate and history and this is reflected in the abundant and varied plant life. Banana, *bwabwai*, breadfruit, pandanus and other sorts of plants can be cultivated in the good soil. The variety and health of vegetation makes the island’s outlook green, shady and cool. There are even mango trees in one area of Tabuaeran which is the Norwegian Cruise Line compound. Other plants that are not indigenous to Kiribati also can be seen around the island such as sunflower.

WATER RESOURCES

The 348 households on Tabuaeran all depend on well water, only 3% also have access to rainwater as a source of drinking water. About a third of households use protected wells for drinking water and around a quarter use protected wells as their main source of water for washing. The remainder use unprotected (open) wells.

Water shortage is not a problem for Tabuaeran, as it has a small population and a large water lens. However the water lens is easily contaminated through activities on the surface including pit toilets, graves and the keeping of pigs and chickens close to open wells. The linked threats of pollution and population have to be consistently managed.

The groundwater reserve on Tabuaeran is also vulnerable to saltwater pollution through surface intrusion. Already the freshwater pond which serves as an important food-producing area for the largest village on Tabuaeran has been inundated with seawater several times, causing destruction to *bwabwai*, banana, coconut and other food crops. Surface intrusion of seawater upsets the delicate balance of the groundwater reservoir, making it vulnerable to inversion where the fresh water no longer floats on the underlying salt water. If this were to happen it could spread out through the porous soil to affect the entire island’s water supply.

MARINE RESOURCES

Tabuaeran has 51 square kilometers of reef, a very large reef area compared to other larger and more populated islands in Kiribati. The island also has a large, healthy coral reef and a large lagoon. One of the larger ocean passages which cuts through the island has become shallow at one end, creating a small mud flat which is still linked to the ocean by a narrow

passage. Shell fish can be found on the mudflat at low tide, and abundant schools of small fish live among the roots of the mangroves during high tide. These resources provide an important source of food to the people of Tabuaeran people however the mudflat is located on the northeast of the island or opposite where the villages are located.

Table 21.3: Size of Reef/Lagoon Size, Tabuaeran

Island	Reef (square km)	Reef base (square km)	Lagoon (square km)	Land (square km)
Tabuaeran	51	Unknown	110	33.7

Source: Ministry of Fisheries & Marine Resource Development

Almost all households fish in the lagoon, and more than half also fish in the ocean or on the ocean reef. There are quite number of village people who prefer ocean fishing to lagoon fishing.

ENVIRONMENT

Coastal erosion is a major environmental issue for the people of Tabuaeran. The people of Tabuaeran strongly believe that the construction of causeways linking the islets of Tabuaeran is the main cause of serious coastal erosion on Tabuaeran.

Tabuaeran was formerly an important seabird rookery with 12 breeding species, but populations are now much reduced and only about six species still breed regularly:

- *te gnutu* (the White-tailed Tropicbird or *Phaethon lepturus*);
- *te koota* (Red-footed Booby or *Sula Sula*);
- *te itei* (Great Frigatebird or *Fregata minor*);
- *te io* (Brown Noddy or *Anous stolidus*);
- *te mangkiri* (Black Noddy or *A. minutus*);
- *te matawa* (White Tern or *Gygis alba*).

There is small population of the Scarlet-breasted or Kuhl's Lorikeet (*Vini kuhlii*) on the northwestern islet. This species is believed to have been introduced by early Polynesian colonists. Tabuaeran is one of only four islands on which the Christmas Island Warbler or Bokikokiko (*Acrocephalus aequinoctialis*) is known to have occurred, but according to Perry (1980), the species has disappeared from this island since 1924. On Tabuaeran as on other islands throughout the world, with increasing number of inhabitants the number of bird species has steadily declined. However with the establishment of almost half of the circumference of Tabuaeran atoll as a wildlife reserve it is hoped that bird populations will survive and recover.

EDUCATION

There are three primary schools, one Junior Secondary School and one Senior Secondary, Meleangi Tabai High School, on the island.

In 2011 a total of 404 pupils were enrolled in three primary schools, namely Ara Eden, Norwegian Cruise Line and Tebonnano. Of this number 209 were girls and 195 were boys.

The total number of teachers in all three primary schools is 19, out of which 5 were based at Ara Eden, 7 at Tebonnano and 7 at NCL.

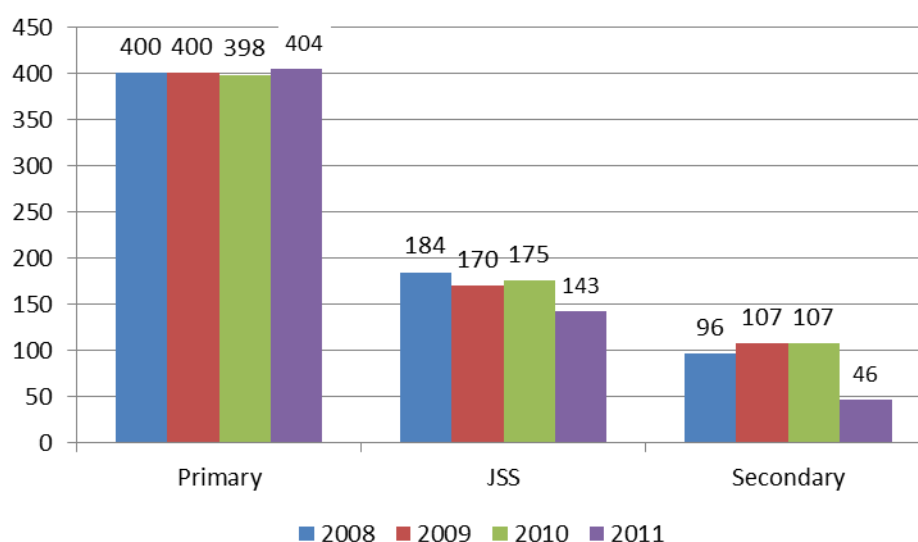
Table 21.4 Primary School Enrollments, Tabuaeran 2011

Tabuaeran	No. of Pupils			No. of Teachers		
	2011		Total	2011		Total
	F	M		F	M	
Norwegian Cruise Line Primary School	107	101	208	6	1	7
Ara Eden Primary School	50	47	97	3	2	5
Tebonnano Primary School	52	47	99	6	1	7
Total	209	195	404	15	4	19

Source: 2011 Digest of Education Statistics

Primary school enrollments have been constant over the past four years, despite the declining population. Enrollments at JSS and Secondary levels have been more variable.

Figure 21.4: Tabuaeran enrollments 2008-2011



Data source: 2011 Digest of Education Statistics

There has been significant investment in the high school, Meleangi Tabai, to try to provide more educational and work opportunities on Tabuaeran in order to encourage settlement. The data for 2011 shows a drop in enrollments at Meleangi Tabai but this is expected to recover with more students choosing to attend high school not only from Tabuaeran but also from Teeraina and Kiritimati islands.

HEALTH

There are two clinics and one health center on Tabuaeran. The clinics are located one in the villages of north side of the island (Napali), the other at the southern side of the island (Kimarimari), while the health center is located in the island's administrative center, Paelau. There is one Medical Assistant (MA) who is the highest ranking medical staff on the island and is based at Paelau.

The health center and clinics have facilities to accommodate patients who are admitted for medical supervision. These health facilities are as follows:

- *Paelau Health Center*: 1 health center, 3 wards, 3 cooking houses and 3 toilets
- *Kimaramari Dispensary/clinic*: 1 clinic, 3 wards, 3 cooking houses, and 3 toilets
- *Napari Dispensary/clinic*: 1 clinic, 2 wards, 2 cooking houses, 2 toilets and 1 maneaba.

The health center and clinics are built from permanent construction materials, while the wards, cooking houses and toilets are of local material. Various surveys on the condition of medical facilities undertaken over the course of the past few years show that maintenance of medical facilities on Tabuaeran have been neglected, resulting in the deteriorating condition of both local and permanent buildings. The main cause of this problem is the lack of maintenance funds.

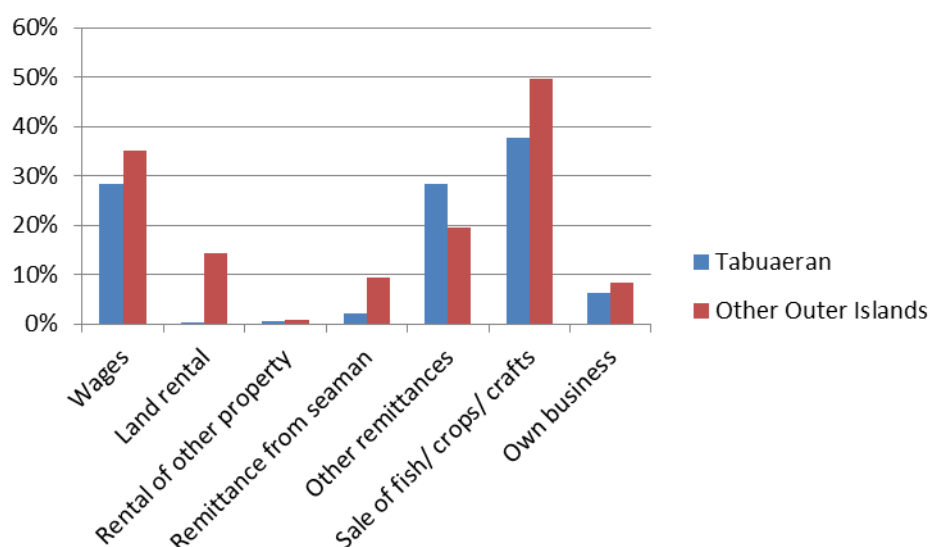
The most common serious diseases on Tabuaeran are fever and diarrhea/dysentery, which in 2011 were more common, on a population basis, on Tabuaeran than many other islands. As Tabuaeran is so isolated, it can be very difficult or impossible to arrange emergency transport for seriously ill patients.

ISLAND ECONOMY

The ample land and marine resources of Tabuaeran provide for a life of “affluent subsistence” with plenty of food available to all households.

However residents of Tabuaeran have a low cash income and find it hard to meet their needs for imported food, tobacco and fuel. The island has many potential economic advantages, and has in the past been a significant exporter of seaweed, and a host to cruise ship visits which provided an important source of income. At the time of the 2010 census cruise ship visits had ceased, leading to a shortage of cash income for residents. The main sources of income were sale of fish/ crops/ crafts (mainly copra), wages and remittances from family working in South Tarawa or overseas.

Figure 21.5: Sources of cash income for Tabuaeran households, 2010 census

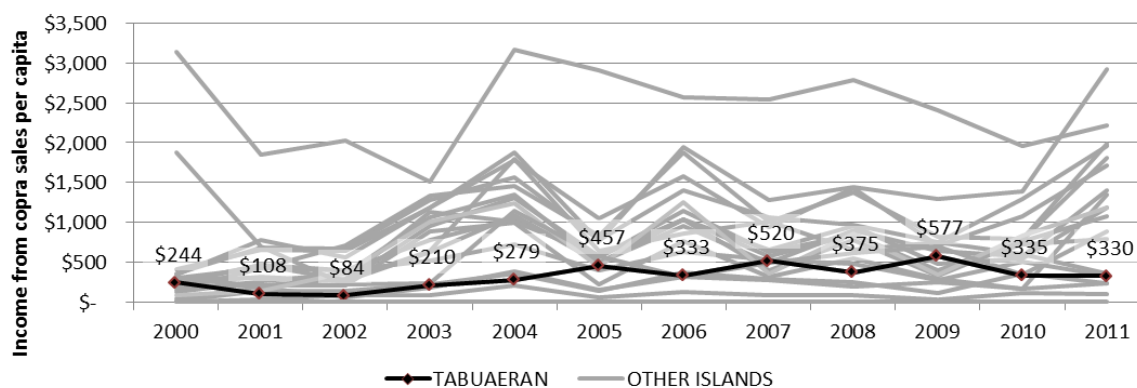


Data source: 2010 Census

COPRA CUTTING

Copra production is an important source of cash income on Tabuaeran, providing around \$300 - \$500 income per household per year. Actual copra exports from the island are quite low in proportion to the amount of copra paid for – the difficulties of transport are sometimes so great that the copra is left on the island rather than being shipped to Kiritimati at a loss.

Figure 21.6: Copra income, Tabuaeran 2000-2011



AGRICULTURE

By Kiribati standards Tabuaeran is one of a small number of islands that have the greatest potential for agricultural development. This is due to the island's high annual rainfall and good soil. Beside coconut, a good variety of fruit and vegetable crops such as breadfruit, banana, pawpaw and *bwabwai* (swamp taro) also grow well on the island and are available to most households on their own land or nearby. On some parts of the island a harvest license is required which further encourages households to grow their food nearby.

Ship transport to Kiritimati is reasonably reliable though expensive, however there are currently very few exports apart from copra. Agricultural produce is consumed on Tabuaeran, mostly within households though some is sold to Government or Council workers.

ENERGY

Firewood is abundant, mainly in the form of coconut husk, dry coconut leaves and common wood, but people are now relying also on fossil fuel for lighting, cooking, and to run motorbikes, generators and other equipment.

In terms of volume, unleaded petroleum has been the most commonly used fuel on the island, followed by kerosene and diesel. Fossil fuel consumption is rising on the island.

TRANSPORTATION

The main transport infrastructure on Tabuaeran is made up of 10.80 miles of road. The road is normally 3 to 4 meters in width, enough for the use of small to medium size vehicles. The most common form of land transport is the bicycle, with three quarters of households having a bicycle in working order in 2010. Motorcycles ranks second in popularity, with 25% of households having a motorbike. There were only two private cars, but there are trucks available to hire from the Island Council or privately.

Inter-village travel on Tabuaeran is hindered by the physical nature of the island, which is divided by open sea passages. The main mode of transport between villages of the southern end of the island and the villages located on Napari is by small ferries or boats that are powered by outboard engines. It is difficult to walk since the passage cutting through the island is never shallow therefore one needs to wait for the ferry or other necessary crossing boats in order to cross the passages.

The separation of the villages affects children the most, in particular those who are old enough to attend junior secondary school and even senior secondary school. Whereas there is a primary school on the other side of the village but there is only one junior secondary school for the whole island which is located on the south side of the passage, where children must travel every day to attend school. Those who do not have access to transport either miss a lot of classes or just simply drop out of school.

Tabuaeran has its own airstrip which is located on the north end of the island (Napari), has a length of approximately 0.72 miles and is built from compacted coral mud. It has not been used for many years. The airstrip was initially built during the establishment of Tide monitoring and recording stations by the US Government; however, the University of Hawaii had to close the station in 1981.

Tabuaeran has a good harbour and there are boat services to Kiritimati those these do not run to a regular schedule.