



18. Arorae



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PHYSICAL FEATURES

Arorae is the southern-most island in the Gilbert group. It has a total land area of 9.48 sq.km, and is 1.01 km at its widest point, and 0.22 metres at its narrowest, with a total length of 9.01 km. There are only two villages on the island, Tamaroa the northern village and Roreti (a local transliteration of Royalist) the southern village. The Government station is located between the two villages at Taribo. The most notable infrastructural features on the island are the two churches at Tamaroa and Roreti. These churches were built from pure limestone rock hacked from the island base itself during initial establishment of Christianity by the London Missionary Society (which later became the Kiribati Protestant Church or KPC) on the island in the early 1870s.

At the northern tip of Arorae, a set of stones mark out the initial directions for voyages to other islands. These stones are no longer visible from the sea, but are still called “Te Atibu ni Borau” or “navigational stones”.

Close to the navigational stones is the “migratory” beach which disappears and reappears at certain times of the year.

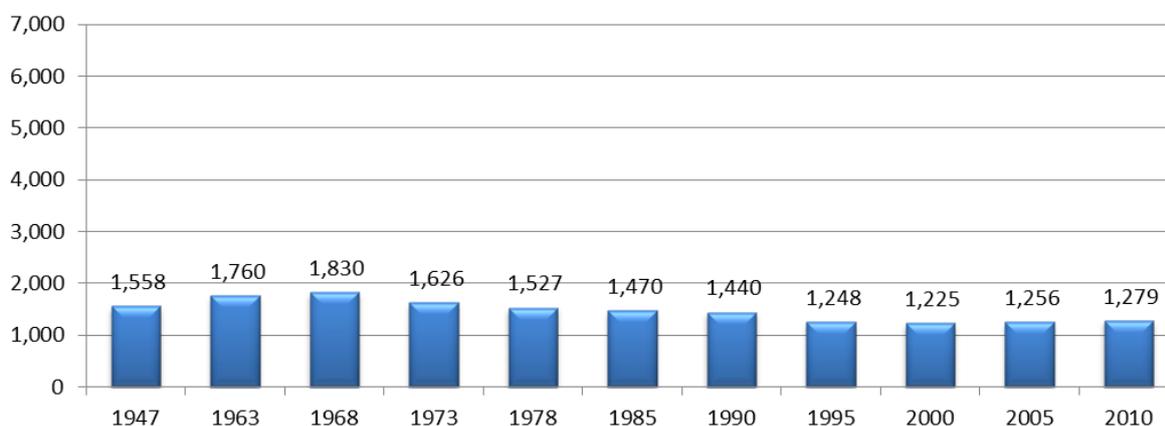
Figure 18-1: Map of Arorae



POPULATION

The population of Arorae in the 2010 census was 1,279. Compared to previous censuses the population is very stable and has been around 1,200 since 1995. Prior to this, the population was larger; in 1968 there were 1,830 people living on Arorae.

Figure 18-2: Arorae population 1947-2010



Arorae has a combined land area of 9.48 square kilometers and a population (in 2010) of 1279, giving a population density of 134 people per square kilometer. Compared with other islands in Kiribati, Arorae is the 10th most densely populated island.

There were 238 households on Arorae at the time of the 2010 census, and the average household size was 5.3 people, which is close to the overall average for outer islands of Kiribati (5.4 people).

There are two villages on Arorae; Tamaroa and Roreti. Each village has its church at the centre, and the households are arranged along the road in an orderly way, quite close together at the roadside but with plenty of space at the front and back. The establishment of the Island Council, schools and services midway between the two villages basically means there is a continuous strip of settled land running along the leeward (lagoon) side of Arorae island.

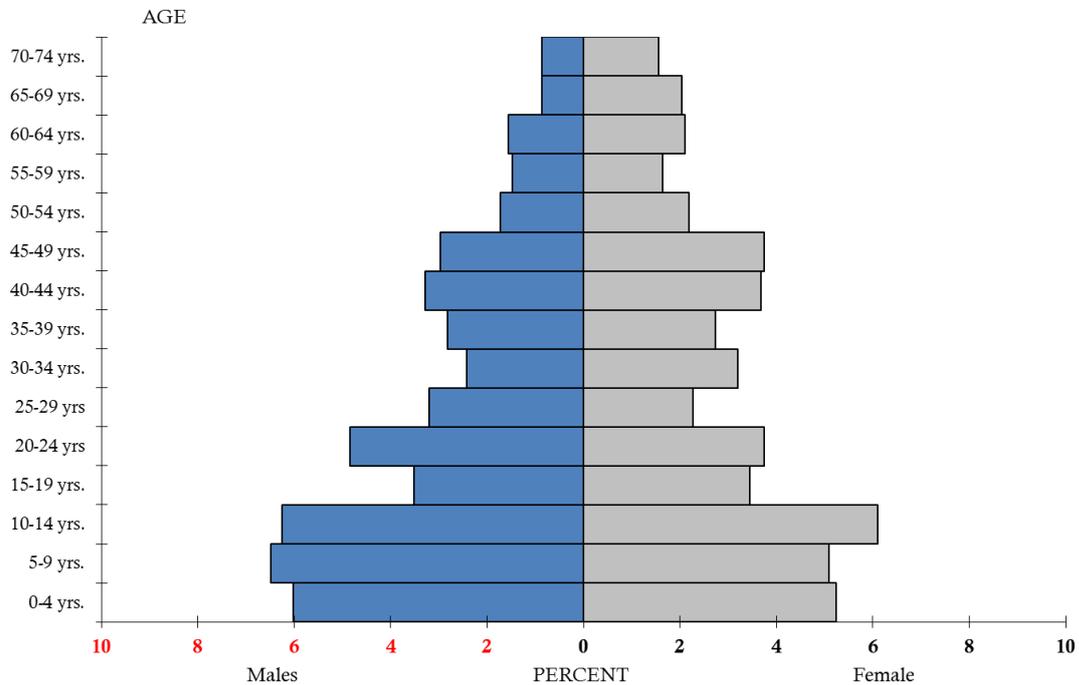
Table 18-1: Arorae population by village

Arorae	Village	Population
	Tamaroa	426
	Roreti	853
Arorae total population		1,279

Arorae has a large elderly population compared to the rest of Kiribati, with 12% of the population aged over 60 (the equivalent figure for the whole of Kiribati is only 5%). It seems that people live longer on Arorae, as even though the population is small there are many elderly people aged over 80 years. In the younger age ranges, the population is quite evenly distributed although there are few young people aged 15-19 years on Arorae as there

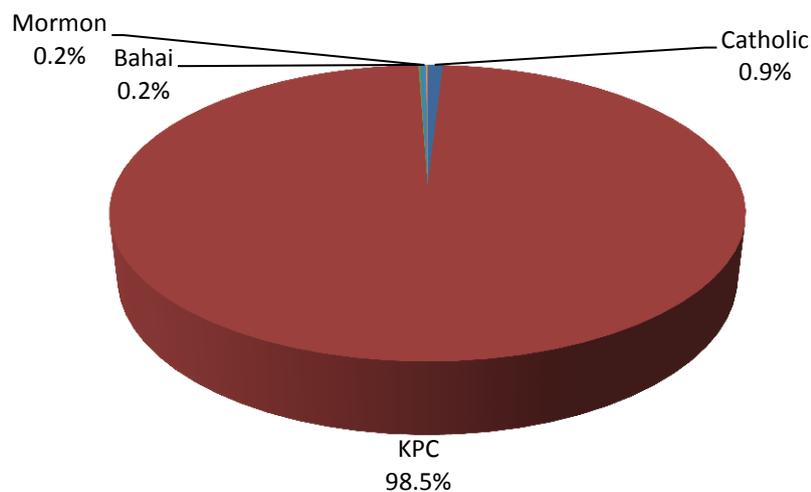
is no senior secondary school there, so many young people will choose to leave Arorae to continue their schooling.

Figure 18-3: Arorae population by age and sex 2010



Almost everyone on Arorae belongs to the Kiribati Protestant Church. This dates back to a promise made in 1870 to missionaries of the London Missionary Society by the ‘unimwane’ and sons of Arorae that the only religion for the island would be Protestant. As per the promise, there are only two Kiribati Protestant Church (KPC) churches on the island, one for each village. Even though there are members of other churches on the island, they do not have churches and have to manage and limit their prayers to themselves in their own homes.

Figure 18-4: Arorae population by religious affiliation



Data source: 2010 Census

All of the above census statistics describe people currently living on Arorae. Most people living on Arorae also identify Arorae as their home island (1,061 people out of a population of 1,279). There were also 216 people from other islands of Kiribati and 2 foreigners living on Arorae at the time of the 2010 Census.

However many people who identify Arorae as their home island live elsewhere in Kiribati, in fact there are more people living on South Tarawa who identified themselves in the Census as “from Arorae” (2,142) than there are people living on Arorae whose home island is Arorae (1,061). Overall, only a quarter (25%) of people living in Kiribati who identify themselves as being “from Arorae” actually lived on Arorae at the time of the 2010 census.

Table 18-2: People whose home island is Arorae, by place of residence at 2010 Census

	Home island is Arorae	From another island of Kiribati	From another country	Total population of Arorae
Live on Arorae	1,061	216	2	1,279
Live on another outer island	987			
Live on South Tarawa	2,142			
Total: people living in Kiribati who are from Arorae	4,190			
	% of people identifying as 'from Arorae' who live on Arorae			25%

Data source: 2010 Census

LAND AND MARINE RESOURCES

LAND RESOURCES

The island’s main resources like the rest of the islands of Kiribati are its limited tree resources predominantly coconut trees, pandanus and its vast marine resources. Typical subsistence activities include fishing, toddy cutting, cultivation and harvesting of food crops mainly coconut, pandanus, breadfruit and bwabwai, weaving mats, making thatches, rolling string, fetching water, collecting firewood, making fish traps and hooks, cleaning and washing, cooking and house construction amongst others.

WATER

Drought is an ever-present threat to the Southern islands of Kiribati including Arorae. The freshwater lens beneath the island holds a large reserve of water but can turn brackish along the coastal edge, where the villages are located, during extended droughts.

All households rely on well water for drinking as well as other uses, as less than 1% of households have a water tank. Around half of all households drink water from an unprotected well, and half from a protected well.

MARINE RESOURCES

Table 18-3: Reef, lagoon and land resources, Tamana island

Island	Reef (sq/km)	Reef base (sq/km)	Lagoon (sq/km)	Land (sq/km)
Arorae	0.98	26	No lagoon	9.48

Like neighbouring Tamana, Arorae has no lagoon, which means the men must venture out into the ocean in canoes or boats, or fish from the ocean reef with nets, to harvest food.

ENVIRONMENT

Relative to other islands of Kiribati, Arorae has not been affected by coastal erosion and in fact is actually experiencing accretion on a couple of sites on the island. The most threatening issues however relating to climate change and sea level rise is change in breeding sites of the marine fish as well as dying land vegetation and increased brackishness of the wells. Other issues also exist in the form of safe dumping of rubbish and lack of proper sanitation facilities that will not affect the water lens.

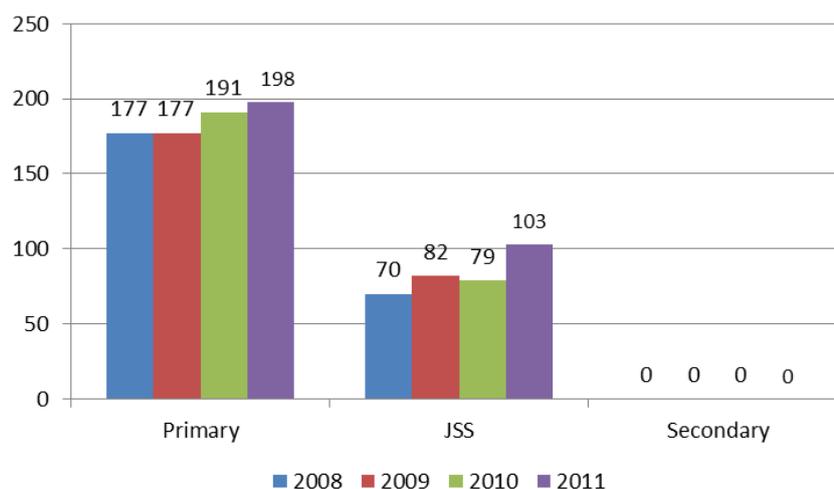
Environmental issues identified by Arorae representatives at the National Summit in 2011 are included at the end of this report, and further detail is available in the Arorae Island Report 2008.

EDUCATION

There are only two schools on Arorae namely Arorae Junior Secondary School (JSS) and Tiona Primary School. There are also two pre-schools on the island. In 2011, a total of 198 children were enrolled in the Tiona Primary School on Arorae and 103 students were enrolled and attended the Arorae JSS.

Both schools are enough for the size and population of Arorae and are located near the Arorae Island Council, placed in the centre of the island for easy access from both villages. Enrollments at both schools fluctuate a little year by year depending on the number of children of each year level on the island.

Figure 18-5: Arorae school enrollments 2008-2011



HEALTH

There is only one clinic on Arorae staffed by a medical assistant, a nurse and two nursing aides recruited by the Council.

It appears that the people of Arorae enjoy good health overall, as they make very few visits to the clinic each year – on average each person visited the clinic only 2.4 times in 2011 and most of these visits were due to general ailments such as sores, wounds, stomach aches, headaches, worms, and flu. The more serious health problems such as Acute Respiratory Infections (ARI), acute fever syndrome, conjunctivitis, dysentery and fish poisoning are relatively uncommon on Arorae. Fish poisoning is an issue on the island in some years, though there were no cases of fish poisoning in 2011. A most common fish poisoning case on the island is related to the high shark. Shark liver is a local delicacy; however, it requires expert processing for it to be edible which did not stop people from eating it nevertheless.

Around half of the population (47%) smokes tobacco, but rates of kava and alcohol use are among the lowest in Kiribati, with only 13% of adults (over 15) drinking kava “regularly” or “sometimes”, and 14% drinking alcohol.

ISLAND ECONOMY

On Arorae as on all Southern islands, the subsistence economy is the mainstay of life and most of the household’s needs for food and shelter are met by living in the traditional way, from the harvest of the land and sea. Typical subsistent activities include fishing, toddy cutting, cultivation and harvesting of food crops mainly coconut, pandanus, breadfruit and bwabwai, weaving mats, making thatches, rolling string, fetching water, collecting firewood, making fish traps and hooks, cleaning and washing, cooking and house construction amongst others. Most of these activities are performed by the adult members of the family, while it falls upon the younger members to collect firewood and fetch water, clean the dishes, the compound, and assist the adult members to do the easy part of their chores.

FISHERIES

Because there is no lagoon on Arorae, most fishing involves going out by canoe into the open ocean. Around half of all households (51%) own a canoe, and many other households will have access to a canoe, meaning that they can borrow a neighbor’s or a family member’s canoe.

The fishing catches are generally used for subsistence living only and where surplus, they are either shared with neighbours, sold to local consumers mostly Government council staff or salted and preserved for later consumption, sale and sending to relatives outside the island especially those in South Tarawa.

The men of Arorae are skilled shark fishermen and shark, along with other ocean fish, is an important part of the diet. The meat of the shark can be eaten immediately or dried, and the dried skin of the shark can be kept for many months as a source of food when it is too rough to go fishing.

More recently, it has been possible to make an income out of shark-fins, which are sold to agents for shipping to China, where shark-fin soup is a highly prized delicacy. It is forbidden to remove the fin from a shark without taking the whole fish for food, but even so there has been depletion of the local shark population as fishermen increase their harvest of sharks, and use outboard motors to go further into the ocean in search of shark.

AGRICULTURAL ACTIVITIES

As well as the essential coconut, the “tree of life” for I-Kiribati, most households also cultivate breadfruit and pawpaw, and around half of households cultivate banana. All these need a lot of attention during drought times and so are kept close to the house. The traditional fruit *te bero* is also cultivated and is an important part of the diet, though it takes a lot of preparation before eating. More recent innovations such as cabbage and sweet potato cultivation has not caught on in Arorae, perhaps because the poor soil and frequent droughts make it difficult to maintain a home garden.

Cultivating ‘*bwabwai*’ (swamp taro) on Arorae is very difficult as Arorae, like all southern islands, is prone to drought. *Bwabwai* requires a great amount of water to grow and is therefore grown in pits dug to the water table. This has made *bwabwai* a luxury food item in the southern islands including Arorae, that is not included in the daily staple diet but instead cultivated and reserved for very important functions and ceremonial purposes. On Arorae, *bwabwai* pits are located deep in the bush, and are very private properties, rarely seen, and the cultivation of *bwabwai* is surrounded in traditional secrecy and intensive care. Households on Arorae do not cultivate *bwabwai* within their home compound in the villages, in contrast to the Northern islands where *bwabwai* pits can be seen in abundance alongside the road and in the extreme northern islands, are known to be community owned.

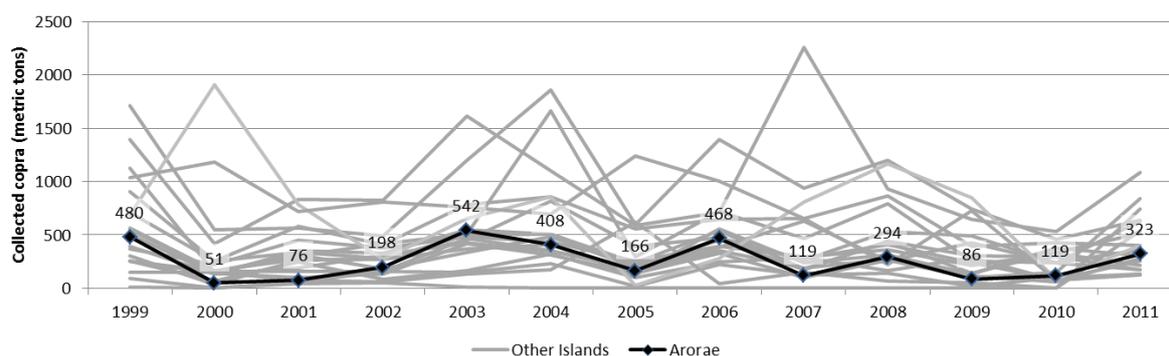
Most households keep pigs, and there are around 1,600 chickens on the island. However meat is not part of the everyday diet but is kept for guests and for special occasions.

The activities of the island’s Agricultural Advisor are greatly hindered by drought at times restricting activities to teaching home gardens, provision of pigs and chickens, animal health schemes, provision of seeds, seedlings (coconuts) and breadfruit cuttings, and coconut replanting schemes.

COPRA

Apart from fishing, copra cutting is the mainstay of the people on Arorae. Being an island vulnerable to droughts, the people over the years have learned to harvest and cut copra according to their needs. Seasons of drought and rain are greatly reflected the copra production for the island that has been fluctuating over the years.

Figure 18-6: Copra production (collected copra) Arorae 1999-2011



ENERGY

Firewood is never an issue on the island due to its limited population and woodland that is abundant with drought-affected trees, dying and drying up. However, people still use kerosene stoves especially during rainy days or functions.

Arorae fuel energy supplies in 2011 as provided from KOIL totaled 76,800 litres of unleaded petrol (bentiin), 8,400 litres of diesel and 8,400 litres of kerosene. Fuel shortages on the islands is a common occurrence and at these times it can be hard also to fish as ocean fishing depends on outboard motors.

TRANSPORTATION

The most common form of land transport is the pushbike, and almost all households (90%) have at least one pushbike in working order. Motorbikes are also popular but are much less common because of the cost of the bike, the fuel, and spare parts and repairs, and also because the unreliable shipping service means that fuel is sometimes not available. Only 17% of households on Arorae have a motorbike in working order. There are no privately owned cars or trucks, but the Island Council truck is available to hire.

Arorae is the southernmost of the islands in the Gilberts chain and is very isolated. There is a shipping service but this does not run to a published schedule. Air Kiribati flies to Arorae and Tamana weekly on a Thursday, however the cost of air travel is out of reach for most, at \$230 one way to Tarawa.

Table 18-4: Environmental issues identified by Arorae representatives at the 2011 National Summit

ISSUES	PROBABLE CAUSE/S	IMPACT on SOCIETY	REMEDIAL ACTION	SUSTAINABILITY (EFFECTIVENESS)
Water/Drought	Extended periods of no rain	-kills vegetation -fruit trees affected/small fruit sizes -dry vegetation makes bush vulnerable to bushfires -decrease income -increased brackishness of wells	-future plans for concrete cisterns -increase water catchments for residents -refer to KIRIBATI WATER AND SANITATION PLAN	-costly but sustainable in the long run
Marine resources and issues:- <ul style="list-style-type: none"> • Lack of or no fishing gear • Remoteness of South Tarawa markets • Little catch 	-low income of residents -geographical set up - overfished sharks ; Many people engaged in Shark fishing	-unable to catch enough fish or can't fish -unable to receive more income no shark meat, a marine protein for islanders -shark depletion thus decrease in income from the sale of shark fins	-devise income generating projects thru island council -consult island council for ways to find a solution -regulatory mechanism for the protection of sharks	-can be sustainable if project has a high viability -once accomplished it will likely be sustainable -takes time and questionable as when sharks will multiply
Strong winds	-whirlwinds	-destroying dwellings and uprooting trees and blew roof houses off	-Disaster Fund and program at Office of te Beretitenti	-can be accessed in times of emergency