



11. Nonouti



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PHYSICAL FEATURES

Nonouti is the third largest island in the Gilbert Group according to land area (19.85 sq.km) and the fifth largest in the country when counting Kiritimati (the largest) and Tabuaeran (2nd largest). It is 36.72km long, 0,92 km at its widest, and 0.07 km at its narrowest point. There is an islet on the northwest side of the atoll called Noumatong. Noumatong is uninhabited and is reserved as a bird sanctuary. The eastern area of the atoll consists of tiny islets and islands which form a continuous line with a length of 35 km and a width of 15 km.

The lagoon is sprinkled with shoals and sandbanks. A narrow opening in the western reefs allows access to the large lagoon by medium sized vessels. The northern part of the island has several interisland reef passages, and some of the northern villages are now connected with causeways.

The main source of drinking water is underground water that is tapped through wells dug 3-5 meters into the ground. The quality of groundwater, especially at the northern and southern ends of the island, are easily affected by prolonged droughts which are common and frequent. Not only is the livelihood of the population dependent on the quality of groundwater but terrestrial fauna and flora.

POPULATION

The population of Nonouti in the 2010 census was 2,683. Compared to the 2005 population of 3,179 and the 2000 population of 3,176, the population is declining. The population of Nonouti declined by -496 between 2005 and 2010, an annual population decline of -3.3%. Nonouti is one of five islands in Kiribati with declining populations.

Nonouti has a combined land area of 19.85 square kilometers and a population (in 2010) of 2683, giving a population density of 135 people per square kilometer. Compared with other islands in Kiribati, Nonouti is the 10th most densely populated island.

Figure 11.1: Nonouti population 1947-2010

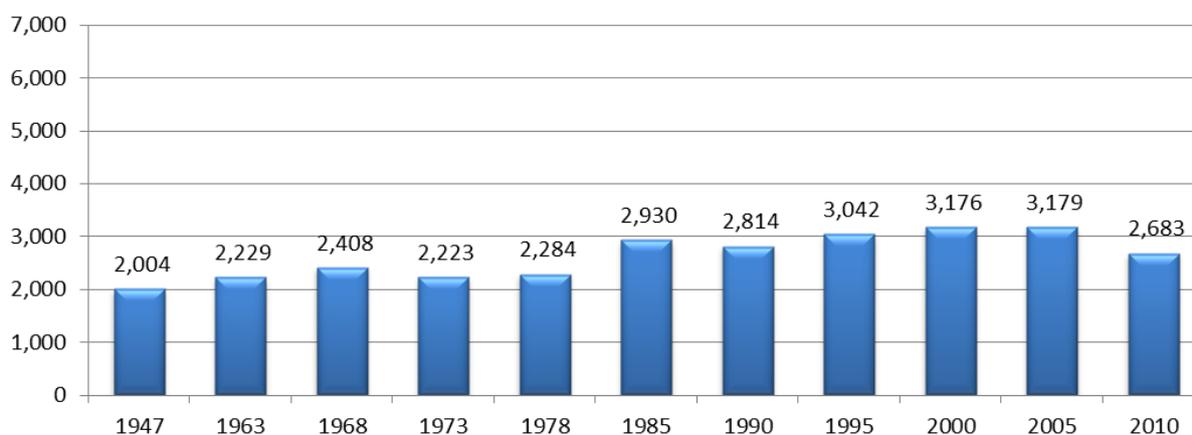
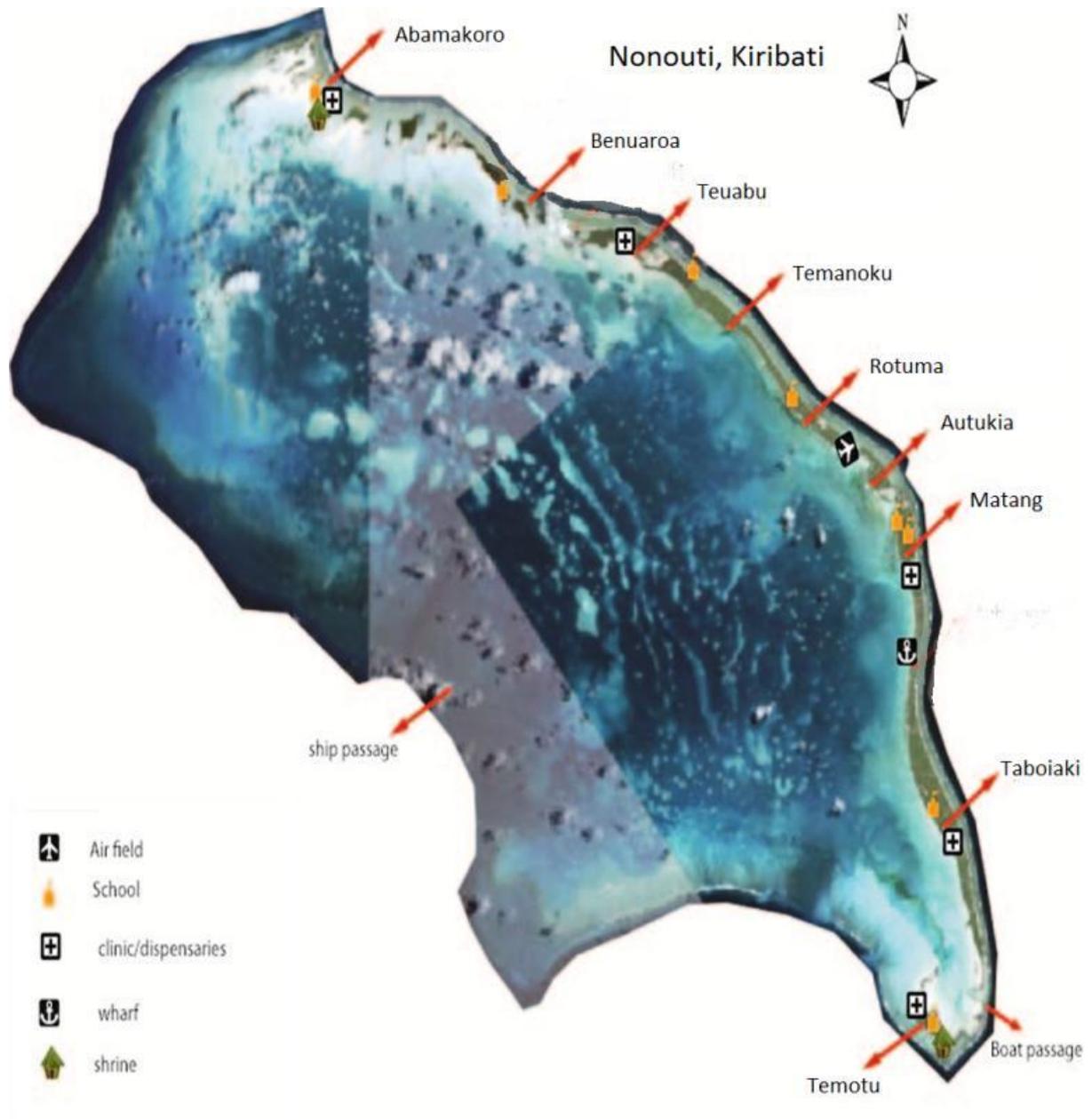


Figure 11.2: Map of Nonouti



Note: Refer to Nonouti Island Profile 2008 for problem areas and sites of significance.

Table 11-1: Nonouti population by village 2010

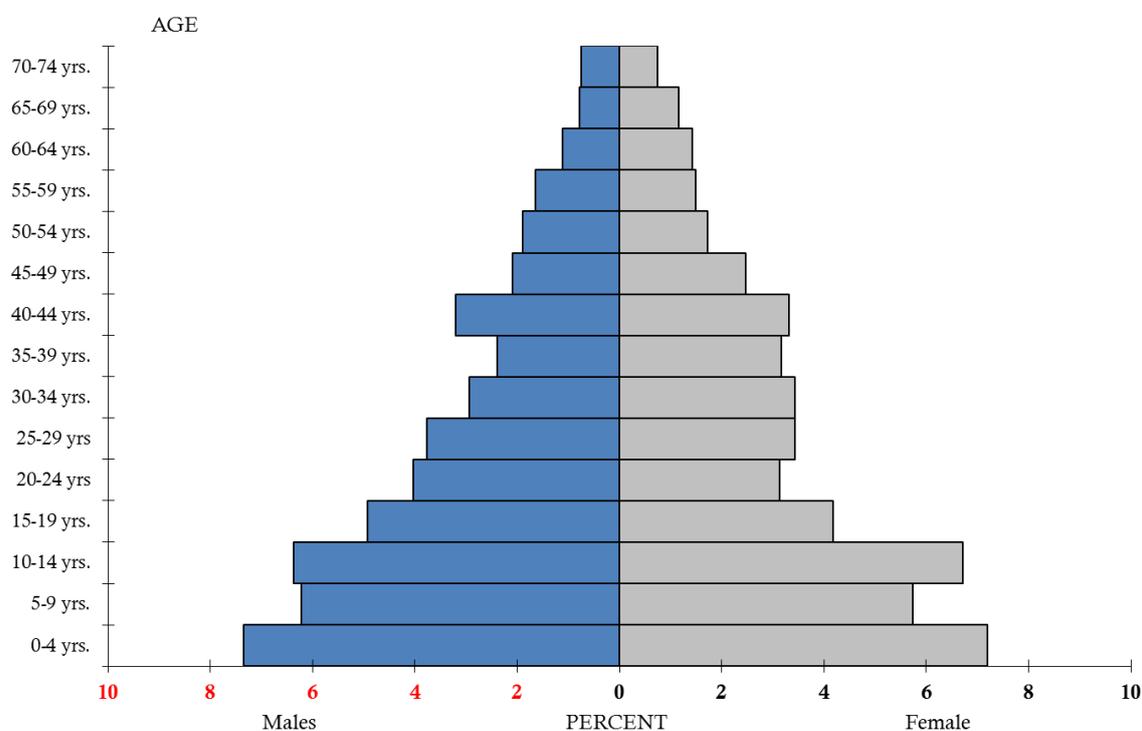
Nonouti	Village	Population
	Abamakoro	104
	Benuaroa	84
	Teuabu	269
	Temanoku	286
	Rotuma	405
	Autukia	112
	Matang	537
	Taboiaki	692
	Temotu	194
Nonouti total population		2683

Source: 2010 Census

Taboiaki is the largest village of Nonouti with a population of 662 people (26%). Matang village is the administrative centre of the island and as such has better infrastructure and facilities, it is also the second largest village on Nonouti with 537 people (20% of the total). Benuaroa (a combined name for the islets of Mataboou and Tebuange) village held the least number of the island's population, with only 84 people or 3% of the total population.

Nonouti has a very large youth population; 40% of the population is under 15 and the largest age group is children aged 0-5 years.

Figure 11.3: Nonouti population by age and sex



LAND AND MARINE RESOURCES

Land is owned by the families and the people in general. A small area is also leased by the various religious groups and the Cooperative Society. Islets between the village of Tebuange and Abamwakoro are owned by many families with connections to ancestors who used to live on the islet. Noumatong is a bird sanctuary and is protected as a conservation area, cared for and looked after by Nonouti Island Council. The people living on the islet of Abamwakoro are given the authority of guarding Noumatong and Tabontenaa from poachers.

Most households live on land that they themselves own, but there are also households on Government leased land, and a few private leases.

Villages consist of lines of houses that are built in a linear formation following the general pattern of the island. The main-road is built through villages and runs along the length of the island. A large portion of the land is used up by wild bush and cultivated coconut, few *bwabwai*, breadfruit, *te bero*, and pandanus tree. The island is covered in shrubs and fruit trees. Other plants include pandanus (*Pandanus tectorius*), breadfruit trees (*Artocarpus altilis*) and bananas (*Musa sp.*) that grow mostly in village area'

WATER RESOURCES

The 2010 census recorded that almost all water, for drinking and washing, is sourced from wells, and that most of these are unprotected wells. Only 1% of households use rainwater as their main source of drinking water.

The islets of Tebuange and Abamwakoro suffer from brackish water during prolonged droughts. Abamwakoro suffers the most as the islet is narrow. During severe droughts, fresh water is fetched from the neighbouring islet of Tabukaokao.

Abamwakoro, Tebuange and Matabou (later two are sub-villages of Benuaroa) are facing saline intrusion into their underground freshwater lens. Cases in point are Matabou and Tebuange that are badly affected by causeways built there thus resulting in coastal erosion and loss of land. Because the thickness of land dictates the size of the underground fresh water lens, as the land shrinks so too does the water resource. At northern end of Matabou where a village was originally located coastal erosion has forced villagers to move further inland abandoning their former homes. Similarly, coastal erosion at the southern portion of Tebuange has caused worsened seawater intrusion to bwabwai pits and extending towards a village. Consequently, Tebuange villagers will have to move back to the former village site.

Central and southern villages are also being affected via causeways and airstrip constructions. Compounding the impact of these manmade destructions are reclaimed lands by individuals or major denominational groups that expand their compounds for more space but at the expense of other people's properties and lives.

The island council is also compounding the erosion through removing sand and gravel from beaches for its endless construction works for classrooms, buildings, and other physical structures. Impacts of natural events on physical landscape and natural resources are minimal as compared to human adverse destruction. The long term impact of the latter will

linger on for years to come. Hence people should talk more of controlling their own destructive actions than impacts of climate change and sea level rise, the latter may be a long way off but through our actions seawater find it easier to seep through or overtop our weak and disappearing beaches.

MARINE RESOURCES

Table 11-2: Size of reef and lagoon, Nonouti

Island	Reef (sq/km)	Reef base (sq/km)	Lagoon (sq/km)	Land (sq/km)
Nonouti	42	25.4	420	19.85

Source: Ministry of Fisheries and Marine Resources Development, Fisheries division.

Due to its large reef area Nonouti has a wide variety of fish resources. Nonouti has such an abundance of fish resources in the lagoon that most of the people engage in net fishing most of the time and rarely go deep or line fishing. Of course, there are those who go fishing in the ocean for sharks and tuna but according to the people of Nonouti, most do not see any reason to go far to harvest the fish when they can get it near in the lagoon and faster using a net. It is extremely rare for the people on the island to suffer fish shortage.

Generally, the main issues concerning fisheries include:

- Lack of fishing equipment
- Depletion of the different species of sea cucumber especially the white teat fish
- Remoteness of the island makes it hard for them to access fish markets in South Tarawa
- Increase of algae in the lagoon waters has prompted people to fish further for sea worms
- Change in lagoon fish sites and migration

ENVIRONMENT

Coastal erosion and inundation during storm surges and high tides is becoming a reality that the people have very low awareness of and see no other solution than to build more seawalls or relocating to other unaffected parts of the village or island. Many locations on Nonouti have been seriously eroded, resulting in the relocation of infrastructure (roads, buildings, etc.) or the recurrent high expenditure of maintaining seawall protection.

Nonouti, is one of the biggest islands in the Gilbert group and thus over the years the construction of causeways has been carried out to connect the mainland to those on the islets. This has resulted in a lot of coastal erosion problems over the years. Topped up with land reclamation by the churches and individuals, parts of the island are eroding while others are accreting.

The bird sanctuary of Noumwatong is undergoing serious erosion at western side due to stronger currents from the western open sea; because of the closure of reef passages along the main island there are no counter water currents from those passages because of causeways. So far five passages have been closed off, one at Routa, Tereiango, Tebuka,

Buariki and the most recent one is Benuaroa-Mataboou passage. Noumwaatng will eventually become a sandbar and further reduced to nothing in the years to come. Consequently, birds are slowly moving to the next uninhabited islet, Tabontenaa. It is not only on these two islets that serious erosion is taking place but also along the coastal region of the lagoon side of the whole island.

Serious inundations have been experienced in the village of Teuaabu at the section of Kaaran, Tekatuai and Tekaaroboi where people have walked in knee deep seawater that seeped in from the lagoon side during one of the high tides in recent years. This area still gets flooded every high tide along with other areas of the same village. The destruction that these floodings do are extreme in the sense that they result in salty wells, dying fruit trees especially breadfruit and 'bwabwai' and great discomfort to villagers especially those whose homes are at ground level.

The community on the islet of Abwamwakoro has been living on brackish water for generations and find the idea of being relocated amusing as they have lived like that for as long as they can remember and have adapted well to the status of their water supply to the point that they get running stomachs when they drink fresh water from the mainland or rain. The people have never considered relocation and have rarely asked for water projects. However, foreigners especially nurses, teachers and pastors working on the islet have found it necessary to seek assistance in the provision of rainwater tanks for their livelihood.

A full list and description of problem areas and areas of significance is included in the Nonouti Island Profile 2008.

EDUCATION

Nonouti island has 9 schools comprising of 7 Primary Schools and one Junior Secondary School and one Senior/high school. Teitnikarawa primary school is located on Abamwakoro village, another primary school known as Tebuange is stationed on Tebuange village, Routa Primary is located in between Teuabu and Temwanoku village, George Eastman high school is placed in Rotimwa village, Nonouti JSS and Tauraoi primary school are both stationed on Matang village, Amy primary school is placed on Taboiaki village, while Kabane primary school is located on Temotu village. Schools sizes depend upon the size of the villages/area's population.

The condition of classrooms, teacher living quarters and other school buildings is generally poor. School buildings are of the local and permanent type and, as such, one would expect that local buildings will be better serviced due to the availability and low cost of materials.

School furniture is generally lacking, and it is not unusual to find pupils learning while sitting or lying on the ground. To try to provide much needed funds the school administration and parents sometimes launch fundraising activities in order to generate income to meet the cost of teaching materials and stationery.

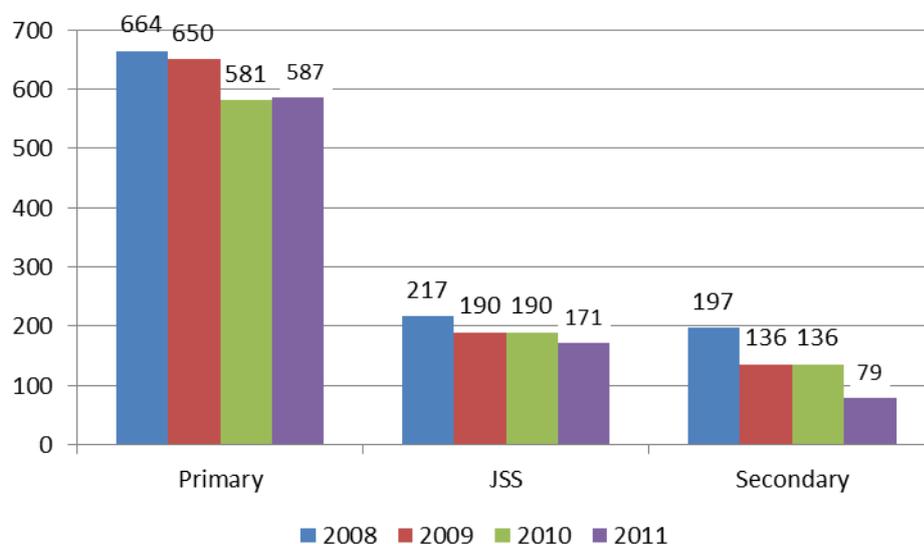
Table 11-3: Primary School Enrollments, Nonouti 2011

Nonouti	No. of Pupils			No. of Teachers		
	2011		Total	2011		Total
	F	M		F	M	
Teitinikarawa	17	11	28	1	1	2
Tiantaake Primary School	31	25	56	2	1	3
Routa Primary School	45	39	84	3	2	5
Peace Corps Primary School	30	39	69	3	0	3
Tauraoi Primary School	68	84	152	4	1	5
Amy Primary School	77	84	161	3	1	4
Kabanei Primary School	18	19	37	3	0	3
Total	286	301	587	19	6	25

Source: 2011 Education Statistics Digest, Ministry of Education.

The Junior Secondary School, known simply as Nonouti JSS, is located in Matang village. Nonouti has also a senior secondary school called George Eastman High School, it is owned by the Kiribati Protestant Church. In 2008 there were 197 pupils but in the 2011 Kiribati Education Survey this school roll had dropped to 79. This may be due to people who may have dropped out, transferred to another school, married, school fee problems, or any other forms of reasons that were not taken into consideration as one of the survey objectives. Without further analysis it is not possible to state the reason for this decline in enrollments.

Figure 11.4: Nonouti enrollments 2008-2011



Data Source: 2011 Education Statistics Digest, Ministry of Education.

HEALTH

There are six clinics and one health center on Nonouti. The clinics are located each in the villages of Teuabu, Temotu, Taboiaki, Rotimwa, Matang, and Abamwakoro, while the health center is located in the island's administrative center, Matang village. The MA is in charge of 2 nurses and 4 nursing aids. The MA and nurses are paid by the central government while the nursing aids are the responsibility of the Island Council of Nonouti.

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 most of the islands including Nonouti 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.

Compared to other islands of Kiribati, Nonouti has relatively high rates of diarrhoea and dysentery, but low rates of respiratory infections. Night blindness, which is linked to Vitamin A deficiency, is a particular problem on Nonouti.

On Nonouti, drinking yangona (kava) is less common than drinking alcohol. Smoking is very common; 52% of the adult population smokes.

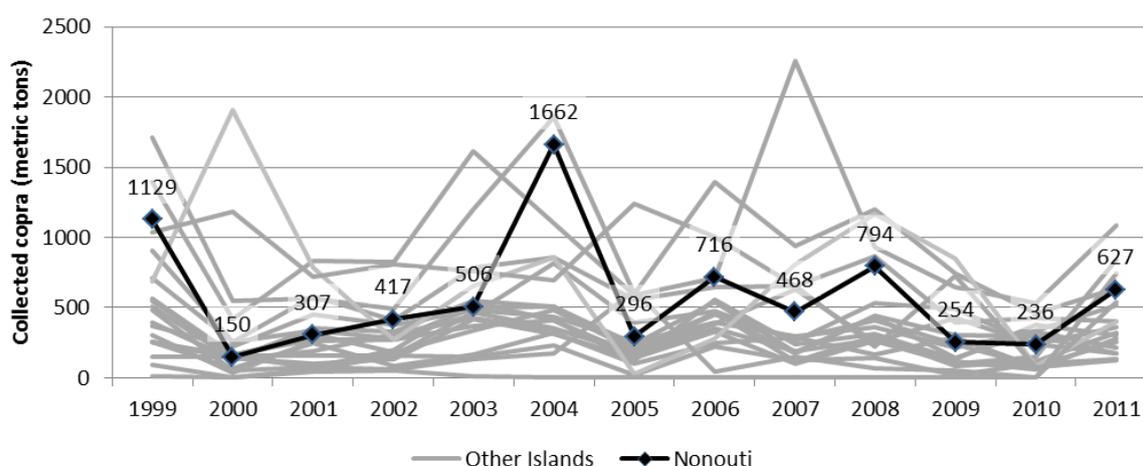
ISLAND ECONOMY

COPRA

Copra cutting is an important activity that provides a source of income for many people on Nonouti. Most households in Nonouti cultivate coconut trees not only in their own village area, but also on other family lands outside the villages.

The lowest production figure for Nonouti was 150 tons in 2000, and the most productive year was 2004 when it soared to 1700 tons. The jump in production was caused by a rise in copra price introduced in 2004. In this same year (2004) the income per household from copra was \$1,355. Subsequently both copra production and copra income dropped. Later price rises, to 70c per kg in 2010 and to 80c in late 2011 saw production rise slightly and incomes rise significantly, to \$1,806 average per household.

Figure 11.5: Nonouti annual copra production 2000-2011



Nonouti	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Income per household	\$133	\$269	\$360	\$1,064	\$1,355	\$491	\$1,031	\$569	\$845	\$400	\$776	\$1,806

AGRICULTURE

Apart from copra in other words coconut, there are other types of crops of which outer island people also cultivate as for their own food supply. The predominant food crops on Nonouti are breadfruit; banana, pawpaw, pandanus, and coconut. Each family has its own bwabwai pits, breadfruit and toddy trees. Home gardening is not at all common on Nonouti with only 4% of households having a garden, and most of these growing cabbage for home consumption. However almost half of households earn some money from the sale of crops, crafts or fish either to other families on the island or to business agents in Tarawa.

The main animals reared by the islanders are pigs and chickens, for home consumption. Most households (86%) have at least one local pig and two thirds of households (67%) have at least one local chicken. In 2010 the total number of pigs on Nonouti was 1764, and there were over 2,500 chickens.

Typical subsistence activities include fishing, toddy cutting, cultivation and harvesting of food crops, and making of string, thatch and mats from both coconut and pandanus. These activities are performed by the adult members of a family, while the younger members are expected to collect firewood and fetch water, clean the kaainga's compound, and assist the adult members to do the easy part of their chores. Cutting of toddy is particularly important in Nonouti with almost all families cutting toddy from trees on their own lands, and many also cutting toddy from trees outside the village areas.

REMITTANCES

With limited employment and income-generating activities, many people on Nonouti depend to a great extent on remittances sent to them by relatives working in Tarawa or overseas. In the 2010 Census, 11% of households reported receiving income from seamens remittances in the past month, and 35% reported receiving other remittances. Remittances are a very important source of income for the people of Nonouti as there are few opportunities on the island to earn income.

FISHERIES

Since Nonouti is a large island with a particularly large lagoon and reef area, fishing is not restricted to the ocean flat and deep ocean only. There is plenty of food to be harvested from both lagoon and ocean reefs. The 2010 census records show that almost all of the 508 households on Nonouti collect food from the lagoon and/or ocean reef, and most also fish on the reefs and in the lagoon. Only one in five households (22%) venture out to the deep ocean for fishing, generally in small canoes and boats.

TRANSPORT

The main transport infrastructure on Nonouti is made up of 24.79 kilometers 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, of which there were 301 in 2010. Motorcycles ranks second in popularity, with a total of 167 motorcycles recorded in 2005.

Inter-village travel between Nonouti and the isolated islets is done through the use of canoes and small boats, since the villages are separated by sea. It is possible to walk between the islets during low tide but the distance is the main deterrent. The separation of Nonouti and several other islets affects children the most, in particular those who are old enough to attend junior secondary school. Whereas there is a primary school on Abamwakoro, the junior secondary school is located on Matang islet, and 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. In 2006 central government provided a skiff and outboard engine to the community to use it specifically to serve the need of JSS pupils.