

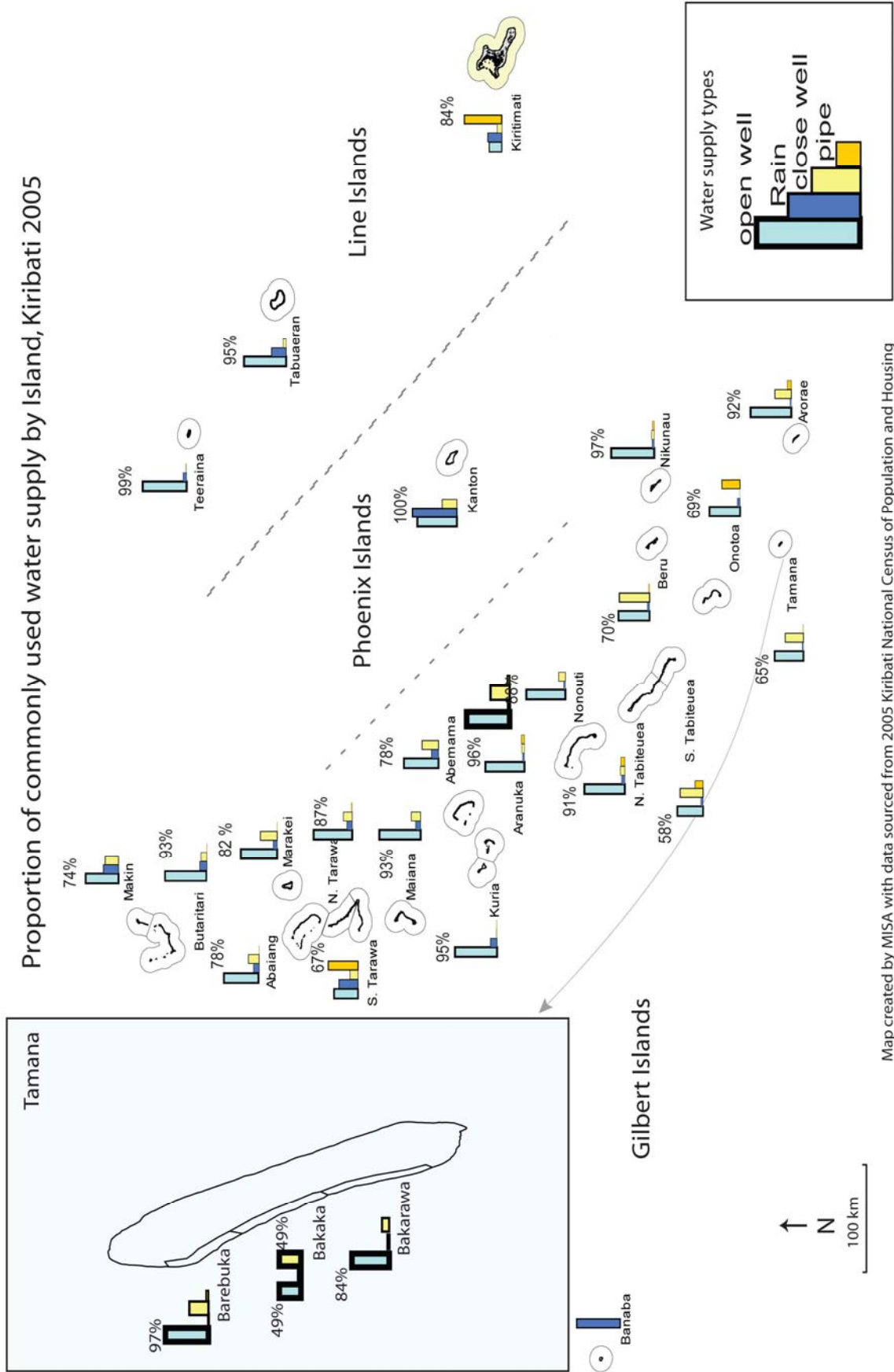
houses and aluminum roof slats, which on Tamana is limited to 5 households constructed out of permanent materials.

In the 1980s, a UNDP project was carried out on the island in which a pump innovation was made by one of the men of the island and thus the pump was named thereafter as the 'Tamana pump' pictured above.

3.8.2 Status of Water Supply

Supply of water from the wells are dependent on the amount of rainfall that falls and with Tamana being a dry island, water becomes an issue during times of drought when the freshwater lens sitting atop the seawater in wells are depleted without rains restoring the lens. Water supply is therefore abundant throughout the year that is prone to brackishness every now and then. There are also around 12 rainwater tanks on the island mostly owned by the Island Council, the church, and community groups.

Data collected from a 1991 hydrology on Onotoa by the Atoll Project of the National Research Council's Pacific Science Board in Hawaii indicated that a well dug at the center of the wider (>1000 feet) parts of the island has a good chance of producing a continuous supply of potable ground water. On the other hand, wells in narrower parts of the island are apt to be brackish (Preston E. Cloud Jr. 1952)



Map created by MISA with data sourced from 2005 Kiribati National Census of Population and Housing

3.9 ENERGY

3.9.1 Lighting

The main source of light for the people on Tamana is the pressure lamp. The chart (right), shows that 121 (61.7%) of the 196 households main source of light is the pressure lamp. 87 (44.4%) of these households main source of light is solar while 26 (13.3%) households have generators and are using it as their main source of light.

Pressure lamps are normally owned by the majority of households on the outer islands as it is not only used as a source of light for the homes but is also mobile enough to be moved to required places and also as a light during night fishing expeditions known locally as 'te kibee'. Where before this kind of fishing required two people (the angler and someone to carry plaited coconut fronds) to provide the source of light, the pressure lamp allows only one person to carry the lamp and fish at the same time without needing another to carry extra loads of coconut fronds.

Fig 13: Sources of light

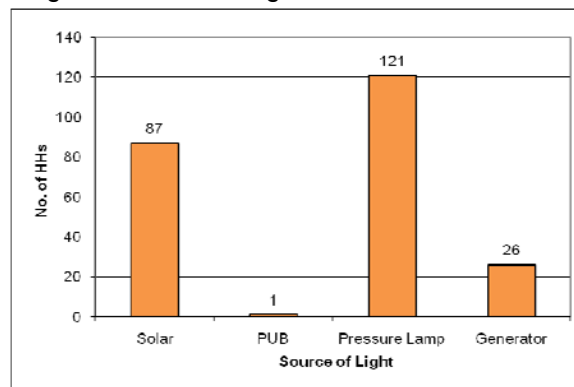


Table 7: Outer island solar systems

	SOLAR HOME SYS		MANEABA SYSTEM			TOTAL
	Operational system	NOT Operational system	M200	M300	M600	
Makin	75	1			5	81
Butaritari	75	0			2	77
Marakei	288	35	5	2	2	332
Abaiang	82	17		6	3	108
Tarawa Ieta	199	83	4	3	3	292
Maiana	87	1		2	2	92
Kuria	75	1		2		78
Abemama	75	0		3		78
Aranuka	73	2		3		78
Nonouti	140	70	2		3	215
Beru	75	0			1	76
Nikunau	74	1			2	77
Tab North	119	1		3		123
Tab South	75	1			1	77
Onotoa	80	1	3	4		88
Tamana	74	1			2	77
Arorae	75	0			1	76
Banaba	77	1	1		2	81
	1818	216	15	28	29	2106

Kerosene is the normal energy source for these kinds of pressure lamps and including other simply innovated bottle lights common throughout the rest of the Kiribati islands. Generators on the other hand are powered by benzene or what is universally known as unleaded petrol and are not run daily but occasionally.

The promotions and provision of a solar system to the outer islands in 2000 has enabled the people of Tamana the opportunity to gain an alternative means of electricity for light and other electrical appliances. A total of 77 solar systems have been installed on the island for households/homes and mwaneaba systems alike. One of these installed solar systems however, is not working (KSECL 2007).

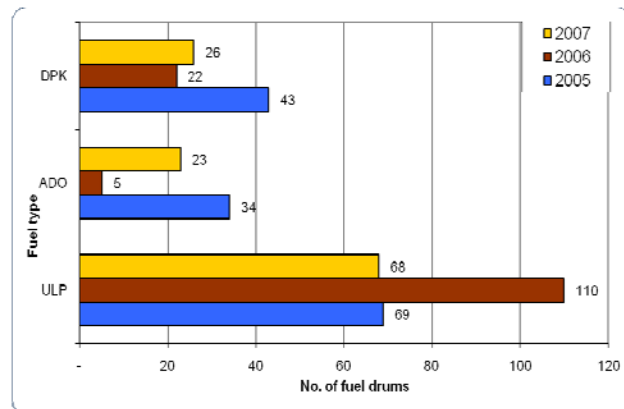
3.9.2 Energy

The traditional form of fuel is firewood, mainly in the form of coconut husks, dry coconut leaves and dead wood of existing vegetation and trees. 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. Gas stoves on the other hand still have to be used on the island but are not particularly popular due to the remoteness of the island the difficulty in transporting gas cylinders to the outer islands. Now that people are resorting to the use of modern technology to provide energy to meet their private and public needs such as kerosene, benzene and diesel are the other forms of energy that have been introduced to the island, nonetheless wood, coconut husks and dried wood still remain the main energy source for cooking. These fuels are

imported and distributed to all the outer islands by the Kiribati Oil Company (KOIL) that is based in Betio on South Tarawa.

To reduce dependency on fossil-based fuel Government has been promoting the use of solar energy on the outer islands, through its company – the Kiribati Solar Energy Company Limited (KSECL). Over the last 3 years KSECL, with funding from the European Union, has installed more than 2000 stand alone solar photovoltaic systems throughout the Gilbert group excluding those in the Line Group of islands. The objective of this “*Outer Island Electrification Project*” is to enhance economic activity and improve children performance in school through the provision of affordable and efficient lighting, as well as to provide an alternative environment-friendly energy source that does not pollute the air and is abundant all year round.

Fig 14: Fuel drum supply



Tamana fuel energy needs since 2005 have been decreasing from a total of 146 drums to 117 drums. However, since 2005 to 2007, Tamana has received a total of 247 of 'Unleaded Petrol' (ULP) better known locally as benzene, 62 drums of automotive diesel oil (ADO) and 91 drums of dual purpose kerosene (DPK) from KOIL. A drum being equal to 200 liters would mean that in the year 2007, Tamana has received a total of 49,400 liters of benzene, 12,400 liters diesel and 18,200 liters of kerosene. There is quite a marked difference between these figures when compared to most of the outer islands mostly because Tamana is a small island with a limited number of vehicles but it also does not have any boats for daily fishing. Arorae would by comparison be using up a lot more fuel as it has many boats that the fishermen use daily to go out fishing whereas Tamana means of fishing is still the local canoe.

The ULP is used solely to run vehicles such as trucks and motorbikes as well as an energy source for generators and outboard motor engines which for Tamana, the latter is accountable for use of such fuel energy. Kerosene is used mainly as fuel for kerosene stoves and also as fuel for 'bottled' night lights, lanterns and pressure lamps. However, data for 2007 were received in November 2007 at which time KOIL had not yet completed entering their data for the months of neither November nor December thus the figures for 2007 could have been more than those already..

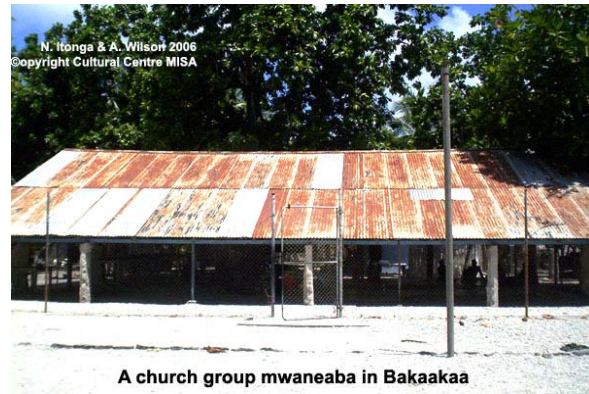
CHAPTER 4: TE RAOI – SOCIAL CAPITAL, COMMUNITY LIFE AND GOVERNANCE

4.1 LOCAL INSTITUTIONS AND SOCIAL CHANGE

4.1.1 The Mwaneaba System and 'Unimwane' Association

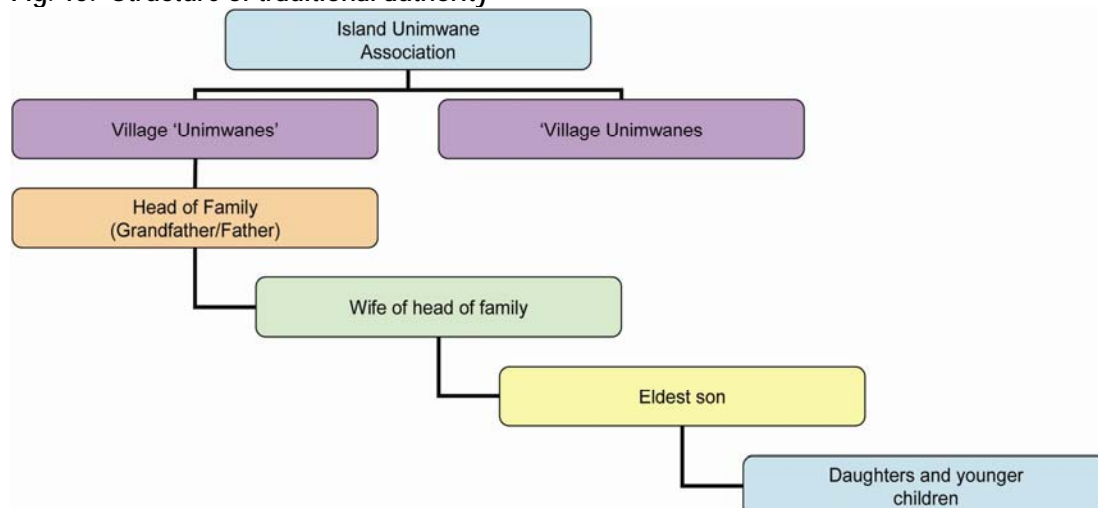
The *mwaneaba* was, and remains the most important institutional symbol and foundation of community life in Kiribati. Its importance is related to its function as the center of social life, where matters pertaining to the social, economic and political life of the community are discussed and resolved with the leadership of the '*unimwane*'.

Beside the *mwaneabas* traditional function as a community hall, court of judgment/reconciliation, and sanctuary for all, the purpose of the *mwaneaba* has considerably widened to include shelter for the sick, storage facility for copra, fundraising venue, and more. Despite the additional uses invented for this culturally important structure, the system of governance and leadership that developed with and revolves around the *mwaneaba* has remained largely intact. This was the result, first of colonial support, and later on of Government's recognition of the importance of traditional leadership vested in the '*Unimwane*' and secondly by the shortcomings of foreign governance in solving local community issues. In all Island Councils (outer island local governments) including Tamana, there is a seat for a representative of the 'Unimwane' Association, who embodies the highest traditional authority for the community on the island.



Mwaneaba positions are inherited according to birthright and thus women can own 'mwaneaba' positions only if they do not have a brother in the family. Here open discussions and arguments are conducted that can be very heated and thus require preparation, courage and confidence. Women are however not discriminated as their views are channeled through their husbands or their unimwanes. There is no such sitting or role tradition in church *mwaneabas* and member roles are consensually agreed by the church community.

Fig. 15: Structure of traditional authority



4.1.2 Women Organizations

The AMAK ('Aia mwaea ainen Kiribati), is the mother organization for all women groups in the country and is therefore the initial body to register under for general women issues such as capacity building in skills. There are also women groups belonging to the different churches such as the 'Reitan Ainen Kiribati (RAK) and 'Itoi Ni Ngaina' as well as independent ones such as the 'Irekenrao' and Seamen's wives. These individual women organizations have their own different objectives, plans and schedules for group activities. Given that the only religion on the island is the Protestant, the only women's organization on the island is that of the RAK.

Generally, women organizations in the country have similar objectives aimed at introducing and increasing capacities and skills in:-

- Both traditional and new knowledge;
- Traditional art and craft;
- Health awareness and promotion in the homes;
- Traditional medicine;
- Individual talent skills
- Enhance integration among themselves
- Provision of assistance and skills to community and island council as required



The women in Kiribati have two general major fundraising activities, handicrafts and the game of bingo. The bingo fundraising activities allow the women from the different community groups to mingle together in respect and support of each other's fundraising activities as well as catch up with each other's activities and happenings.

The women on Tamana also have other fundraising activities unique to them in the handicrafts that they make which they decorate so colorfully with dyed pandanus leaves as well as bright

colored knitting wool. Apart from this, they are also well known for their mats made from whole pandanus leaves instead of shredded ones. These however are made in groups as the leaves are too big to manage on one's own, which in turn would affect the weaving.

These mats are their main source of income but are also used most of the time as gifts to visiting officials and relatives.

4.1.3 Youth and Sports Associations

Information could not be collected on this and thus will not be included in this profile.

4.2 RELIGION

4.2.1 Main religious denomination

Tamana has one denomination, the Kiribati Protestant Church. In 1870, a Samoan clergy, sponsored by the London Missionary Society, arrived at Arorae, Tamana, Onotoa and Beru. Nearly two decades later, in 1888 Roman Catholic missionaries arrived in Kiribati (*Commonwealth Country Profiles*). However, despite the Protestant having arrived on the island first, most of the people especially in the central and northern were rapidly converted to the Roman Catholic. The RC converts when asked in 1892 by Captain Davies of the 'Royalist' why they preferred Roman Catholic than Protestants answered with indifference, *'Oh! that Roman Catholic missionary man, he no trade, he no fine, he give ummm book no makee pay – oh he belong good man'* (Capt. Davies Diaries).

Despite this, the Tamana people have shown their endurance characteristic and have persevered through all the tests of different religions. One of the main reason for their perseverance is the 'promise' made with the island 'unimwane' during initial introduction of the LMS Protestant that stated the Protestant as the only religion to be maintained on the island and none else.



Owing to this monopoly in religion on Tamana, the general perception is that to work as a pastor on the island of Tamana and also Arorae is the nearest that anyone can get to being treated as a king in the southern islands. Pastors are so much respected on not only Tamana but also Arorae, its nearest neighbor, that they are spoilt to such an extent that they are not allowed to do any menial work at all. The community members take turns in cutting toddy, cleaning, washing and feeding the pastor and his or her family.



The Pastor's daily meals (breakfast, lunch & dinner) are provided by the island community on a group routine basis.

The general observation of Protestant pastors being more likely to get diabetes and hypertension is so fitting for those on the islands of Tamana and Arorae who, through no fault of theirs are prevented from doing any manual work by the island communities themselves. Those who are willing to be spoilt do end up gaining weight faster than anything.

People from other denominations are still culturally accepted but who unfortunately cannot do anything but either pray in their own homes or attend the protestant

services on the island. Most government employees do respect this and some have been known to have been converted to Protestant after having worked on the island for a couple or more years.

4.3 POLITICAL AUTHORITY AND GOVERNANCE

4.3.1 Traditional political system – description and status

Tamana falls under the laws and jurisdiction of the Kiribati legislation and are represented in the House of Parliament by one nominated member. Boanareke Boanareke was the initial MP for Tamana since independence in 1979 when the Republic established its own parliament and representatives. He has since been replaced by Mr. Kabetite Mweretaka.

4.3.2 Local government system - Tamana Island Council

The government system in Kiribati is made up of the central government, based in South Tarawa, and Island Councils based on each island. Tamana Island Council was established 15th November 1967 under a warrant that outlined the purpose, responsibilities, authority, powers and laws that govern the existence of Councils. The functions of the Island Council were spelled out in the Local Government Ordinance 1966 which has been revised a few times, the most recent being in 2006 and is now better known as the Local Government Act. The review of 2006 also included translation of the Act into the local language. The amendments and translation were approved in 2007 with copies already disseminated to island councils on the outer islands including Tamana.



The revised Local Government Act 2006 is aimed at transferring to Island Councils more autonomy and responsibility, to enable them to shoulder the burden of running their islands with increased confidence and sense of ownership. The revision of the Local Government Act is, but part of a wider plan to improve services to people on the outer islands. In addition, central government is committed to undertake, among others, the following:

- improve key development infrastructures (transport, communication, health, education, etc.) through sustained development financing,
- promote participatory planning and decision-making especially in relation to matters pertaining to the island as a whole,
- streamline operation and output of Island Councils through human resource development and stricter management where appropriate,
- development of new income generation initiatives, and
- finding and securing of new employment opportunities overseas, etc.

The Island Council is made up of representatives from each village/ward who are elected every 4 years. There are also nominated and ex-officio members who, together with elected members meet every month to discuss matters pertaining to the operation of the Island Council and issues affecting the various wards and the island as a whole. As already mentioned, a seat on these Council meetings is reserved for a representative from the "Unimwane", the women and the youth. The parliamentarian or member of parliament from the island is an ex-officio member of these council meetings at which the Chief Councilor presides/chairs while the 'Clerk' seconded from the Ministry of Internal & Social Affairs acts as 'Secretariat' and Chief Advisor. Tamana Island Council has two elected members from each of

its three villages of Barebuka, Bakaakaa and Bakarawa as well as representatives from the 'unimwane' and women.

Among its core functions as stipulated in the Local Government Act 2006, the Island Council is also responsible for managing the following general areas:-

- Agriculture/Forestry, livestock and fisheries,
- Land use, Buildings and village planning,
- Education,
- Relief of famine and drought (Disaster management)
- Markets,
- Public health,
- Public order, peace and safety,
- Communications and public utilities,
- Trade and industry

All Island Councils have management support staff that are seconded from central government to assist the Island Council in administration of island development. These support staff include the Council Clerk, Treasurer, Assistant Treasurer, Island project Officer, Assistant Social Welfare Officer and Court Clerk. In addition to this administrative and support team who work directly with Councils, there are also other government personnel who are placed on the islands to assist in other important services, such as police officers, agricultural assistants, fisheries assistants, medical assistants, teachers, DBK (Development Bank of Kiribati) and KOIL agents. However, some of these Government officers are still lacking on Tamana such as a KOIL and DBK agent. The Island Council otherwise have their own typist, drivers, radio operator, mechanic, constables (village wardens), nursing aides etc (See Council Structure 2007 illustration).

Generally, while Island Councils may welcome new initiatives of central government to assist them and their people, it may take a long time to build the financial capability of Councils for them to be able to operate with minimum support from central government. However, they do collect revenues from taxes and strive to develop their own income generating activities such as with rest-house services, boat and truck hires amongst others. Tamana however, does not use boats due to the island's former prohibition of boats on the island. Anyway, it is too small an island without islets to need boats for inter-island transportation.

The following **Table 8** describes the kinds of revenue that the Tamana Island Council gets each year amongst others.

	Revenue Description	Tariffs Per Annum
1	Body taxes (18-60 years old)	\$5.00 per 18-60 resident \$7.00/Government, Council and NGO employee
2	Airport taxes	\$20.00 Government employees \$5.00 for Council and Coop workers \$2.00/12+ children \$1.00/12- children
3	Sea departure tax	\$1.00 Adults (12+ and older) \$0.50 those under 12
4	Store licensing	\$350.00 Wholesalers \$150.00 Retailers
5	Film shows	\$80.00
6	Entertainment	\$5.00 for any kind of sports \$80.00 for DJ

7	Floats	\$30.00/floater \$100.00 for a year \$60.00 for group
8	Hawkers	\$35.00
9	Fuel depots	\$500 for KOIL \$65.00 for group depots \$35.00 for private depot
10	Bakery	\$35.00 Private bakers \$65.00 Group bakers
11	Fish marketing	\$30.00
12	Truck fares	\$0.10 Children \$0.15 Adults
13	Car hire	\$20.00/trip for Gov't officials + overtime \$5.00/trip for roundtrip \$4.00/trip for individual community members
14	Venue hire	\$20.00/day for Government officials \$5.00/day for community groups \$2.00/day for locals
15	Motorcycle hire	\$20.00/day for Government officials \$15.00/day for locals
16	Generator hire	\$20.00/day for Government officials \$10.00 for community groups \$5.00 for individuals
17	Telegram	\$0.10 per word for the first 50 words + \$0.05 per word thereafter
18	Rest-house	\$30.00 Accommodation including meals \$20.00 Accommodation only

Source: Island Council Estimates, MISA 2007

Central Government still provides support to the Island Councils through what is known as the Government's "Support Grant". According to sources from the Local Government Division of the Ministry of Internal and Social Affairs, central government provided a total of \$1.24 million to Island Councils in 2007. From this grant Tamana was given \$32,959.00 (2.7% of total distributed grant) to assist its recurrent budget.

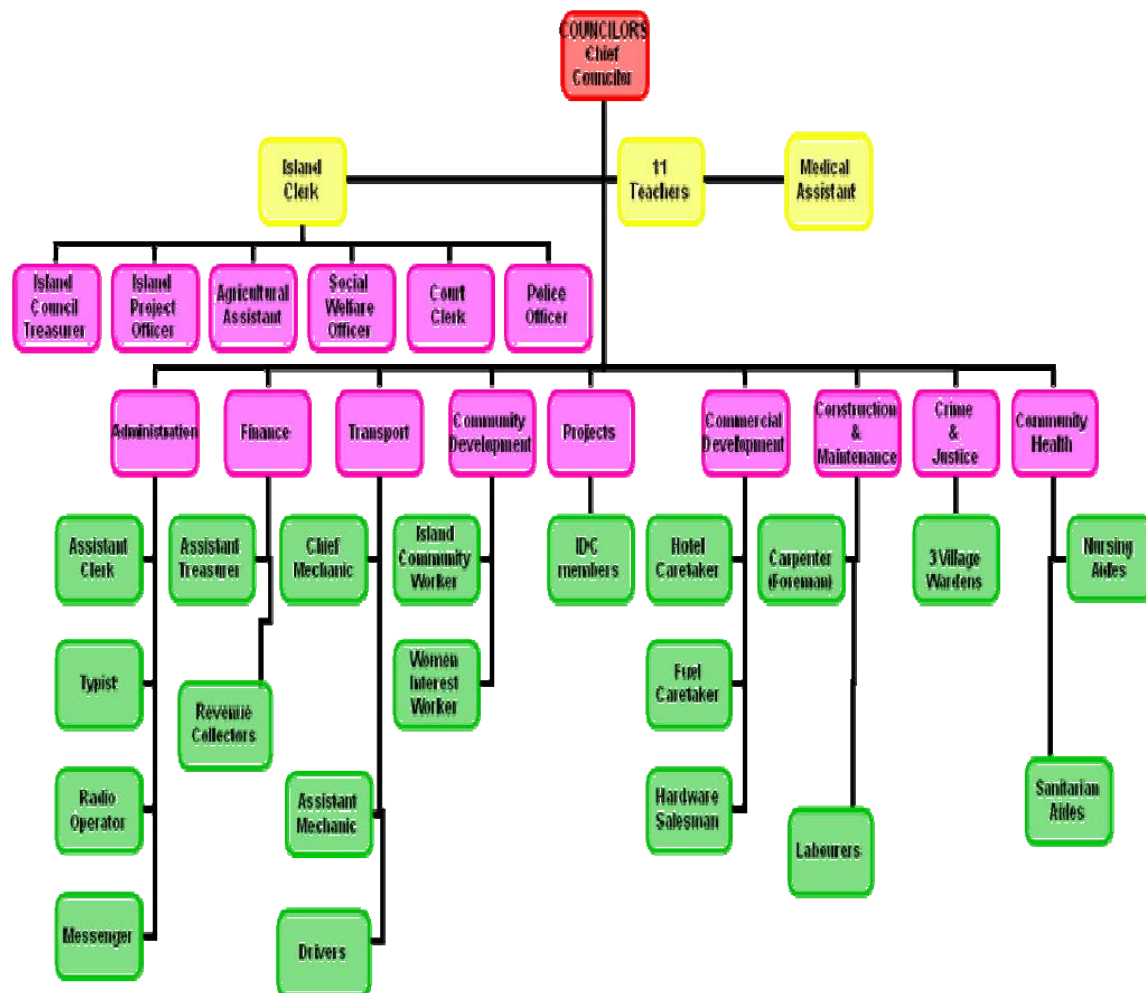
Apart from the support grant that the Government gives to the outer island councils, Island Council projects are also funded by the government and donors most notably the Taiwan embassy in South Tarawa who gives out AU\$10 million every year to fund these island council priority projects from all over Kiribati. The table below shows Tamana Island Council priority projects since 2004 that have been approved and funded:

Table 9: Tamana Island Council priority projects 2004-2007

	Project Title	Approved funds
2004	Council Living Quarters	\$77,190.00
2005	Multipurpose Boardroom	\$56,558.25
2006	Mechanical workshop with working gears	\$89,700.00
2007	New Council Office	\$152,486.00
		\$375,934.25

Source: RPD MISA 2007

Fig 16: Tamana Island Council Staff Structure 2008



Source: GoK Island Council Estimates 2007 & ICOP 2006

4.3.3 Interface between Local Government and Traditional Political System

The leadership role of the 'Unimwane' by the people on Tamana is still well appreciated and continues to be respected by society, and central government. The modern legal system is however crucial to the maintenance of peace and order in Kiribati, but there are many instances where modern law fails to provide a solution to certain situations, and this is where the community under the leadership of the 'unimwane' intervenes to provide the solution. To avoid confrontation between central government and the traditional leaders, it was therefore resolved that the 'Unimwane' association must be represented in local government, not as an elected councilor but as a nominated member who assists, advises and in many instances instructs Council to make decisions that will not contradict local traditions.

Generally, 'unimwane' roles in the Southern islands are taken seriously with men only called 'unimwane' at the age of 60 onwards. Membership of the 'unimwane' association vary from island to island but they have been the decision making body for the islands especially the Southern islands before they were proclaimed as a British protectorate in 1892 by Captain Davies of the '*Royalist*' and are still respected as such. Where the Island Councils role is understood as administration of all island development as central government wants and sees fit, the 'unimwane' oversee that the island is administered as dictated by their traditions.

Councils and other institutions cannot disengage themselves from the 'Unimwane' who basically hold the power to community support and/or resources. The Councils on the other hand hold the power to Government funds and support in island development.

4.3.4 Crime and Justice System

A Court Clerk from the Judiciary in Tarawa is also stationed on the island to administer the court system on the island. Duties of the Court Clerk include recording minutes of the magistrate court proceedings, executing the order of the court, collecting court fees, and processing claims and appeals to the High Court located in South Tarawa.

There is a police officer on the island is responsible for keeping the peace and order on the island and is supported by three (3) local constables residing in each of the villages. The 3 village wardens are responsible for keeping the peace in their respective villages.

There is only one single Island Magistrate who presides over two courts, namely, the Island Lands Court and the Magistrate Court which deals with criminal and civil cases. Appealed court cases on the island are accumulated and reported to central court headquarters in Betio. The High Court Judge then visits the island to further judge appealed cases.

Tamana is one of those islands that are free from the worst crimes imaginable such as rapes and murders and if there have been such cases; they have not been brought to the attention of the police officer and court clerk on the islands. They do however have low case rule breakings such as driving motorbikes and pushbikes without lights, vandalism and every now and then intentions to cause harm (fights). Stealing and raping are the worst traditional crimes in Tamana that are very shameful and can stick to families for generations. Both these crimes can result in ostracism.

CHAPTER 5: TE TABOMOA – ECONOMIC ACTIVITIES, INFRASTRUCTURE AND UTILITIES

5.1 ISLAND ECONOMY

5.1.1 Subsistence Economy

A subsistence economy is one where people perform traditional activities to meet their individual and group needs for security, and have no reason to accumulate wealth except to ensure their future survival. The concept of wealth does not exist hence there is a high degree of sharing and reliance on existing natural resources, development and maintenance of the natural environment and skills to harvest and maintain these resources. The nature of the subsistence economy is reflected in the social organization of families, who join together to form clans (*kaainga*) that function, according to a set of rules and roles. Each member of a *kaainga* performs a different set of activities that are assigned based on sex and age. It is important for the survival of the group that each member fulfils the roles and responsibilities assigned to him/her.

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. Unfortunately, subsistence living is slowly disappearing and being replaced by a cash economy where most subsistence activities are now not only catered towards subsistence living but also to generate income to pay for the basic necessities.

Where most of the fishing was done for subsistence, it is now sold and where there is a surplus, it is either given freely to relatives, preserved for later consumption or sale. Due to the increasing dependence on imported goods that are sold to the public by small stores, the importance of cash as a medium of exchange, has now dominated bartering and sharing that were once traditions of Kiribati.

Monetary institutions such as the banks and other financing institutions are not available on the island and thus the availability of money can be affected, setting the way for the existing customs of borrowing (*tangobwai*), asking (*bubutii*) and or bartering. Special skills are kept in the families and can only be given to sons and daughters, adopted sons or daughters and at times take on the role of trade especially when the specialist is being looked after by another family. They can also be gifted to others when the specialist feels it appropriate otherwise; these skills are kept in the families.

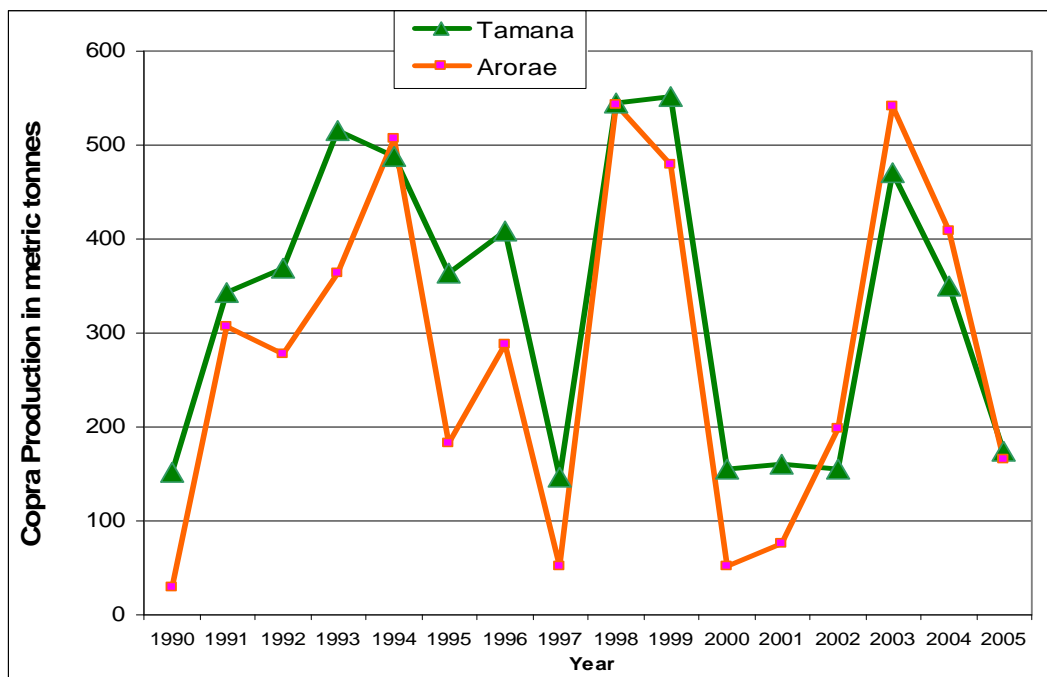


5.1.2 Copra cutting

Like the other outer islands of Kiribati, other than fishing, copra cutting is the mainstay of the people on Tamana. Being an island vulnerable to droughts, the people over the years learned to harvest and cut copra according to their needs, their copra production over the years has been fluctuating with the times of drought and good seasons.

The 2005 census recorded the number of coconut trees accessed as 126 trees for the 196 households. This figure however only counts the number of coconuts that are nearby or ones that are surrounding the households and not counting the ones in the bush. There are 170 toddy trees cut by the 196 households that provides the main tree vitamins for subsistence livelihoods as well as fermented toddy for relaxation and income generation that again is open to comments as toddy cutting is one Tamana's male main activity. This being said because, the system of the 'ai'ai' has been a major activity on the island where groups or the whole community itself take turns receiving certain litters from the different community members. This tradition allows the people to help one another by providing say two liters of toddy on a rotational basis to each of the members. Sometimes as much as a bucketful of toddy can be received in a day that is then boiled until it becomes a syrup 'kamwaimwai'. This syrup keeps for long and is used as a cordial, a topping and a food sweetener.

Portrayed in the following chart (Fig 17) is the copra production of Tamana as against the Island of Arorae.



If droughts were the only reason for the decline in copra production, the copra charts would provide good indicators for times of drought. As depicted in the chart, the production has been fluctuating between 29 tonnes and 544 tonnes since 1990 with Tamana's latest copra production being 175 tonnes for the year 2005. Copra prices have also been slowly increasing from \$0.30/kg in 1990 to \$0.60/kg in 2005. Their highest production of 544 tonnes occurred in 1998 when copra price was at \$0.45/kg, which would have brought the island an income of \$244,800.00. The 2005 175 production would have brought the people an income of \$105,000.00 only which if there were 196 households then would have brought the households an income of \$535.71 for the whole year which would be equal to \$1.47/day (\$535.71/365). Even though this is slightly over the international poverty line, it should be remembered that people on

the outer islands of Kiribati do not rely 100% on money to live but actually rely mostly on their being able to fish, cut toddy and utilize existing food resources. This daily income is more than enough to buy a kilogram of rice and flour for their young ones, who have taken to imported rice and flour faster than the adults. On the other hand, copra is not the only means of income for the people on the island as there are other means of income such as remittances, fishing and handicrafts.

5.1.3 Employment

The Island Council serve as the biggest employer for Tamanaans, employing about 30 islanders as village wardens, village nurses, drivers, hotel keeper, and office (typing, treasurer, clerk) assistants etc (See Council staff structure Fig.). Depending on the need, Council may from time to time engage contractors and laborers to undertake short carpentry or auto-mechanical jobs. Seasonal employment is usually available when Government or large Council projects are undertaken, especially those which require the service of casual laborers.

Manual labor is also regularly needed in the stevedoring of visiting supply ships, which make monthly or more regular runs to Tamana carrying food, fuel, timber, and other general goods. These are offloaded on reaching the island by casual laborers. On the return trip, these ships are loaded with copra, empty fuel drums and some local produce like salted fish, mats, 'bwabwai' and 'kamwaimwai' for relatives in South Tarawa or by the ship officers themselves. Stevedoring provides an alternative way to earn income and the boat harbor has made such manual loading and offloading easy enough. In Tamana, stevedoring is also taken in turns by the three villages as supervised by the Cooperative Committee. These committee members supervise stevedoring activities and for fairness, a certain amount of time is allocated each person engaged in the offloading of cargoes from ships. Most of the time, it is the youth who engage in stevedoring as the older family members are always busy fishing, mending nets, preparing meals or weaving.

Apart from a handful number of jobs offered by the Island Council in its limited service, the opportunity for paid employment for the islanders is otherwise non-existent. The Cooperative also employs a few other people to run its only branch situated at the Council quarters. There Government positions for other services on Tamana such as teachers, medical nurses, clerks, Island Project Officers, police officer etc are not available to the islanders due to most islanders not meeting the minimum qualification requirements that these jobs entail. The Island Council can only recruit a typist, assistant treasurer, assistant clerk, village aides, drivers, mechanics, and carpenters, to name a few.

To solve the high unemployment problem in the country Government is now increasing its effort to look for and exploit overseas employment markets especially the Pacific-rim countries of Australia, New Zealand, Japan and the United States. Casual work such as fruit picking, elderly homecare attendants, peacekeeping and sailors are some of the employment markets being explored. To this end, Tamana, like the rest of the islands in the country can only await the outcomes and decisions of the Government as they come and go. The lack of opportunities to generate income in order to be self-reliant is a far off goal as all Island Councils including Tamana Island Council rely heavily on central Government to support their administration, which is provided annually in support grants.

5.1.4 Trade and Commerce

Commercial/cash trading is an introduced concept in Kiribati society and has become an important part in the lives of the people of Tamana. However, there are not a lot of retailers on the island that could be attributed to its small size and therefore greater convenience in having one Cooperative for all.

To carry out any business activity involving trade on Tamana, requires that one purchase a business license from the Tamana Island Council of which the cost varies depending on the type of business to be carried out. The most common business licenses on record are those of wholesaling, retailing, hawkers and fishing. The following **Table 10** shows the type of businesses and license fees required from the Tamana Island Council:

	Type of Business	License fee Per Annum
1	Stores	\$350.00 Wholesale \$150.00 Branch, Private retailer, and Group retailers
2	Movies	\$80.00 Film shows \$5.00 rental films
3	Small Hawkers	\$35.00 Hawker (Gum and Balloons) \$15.00 candy, ice block, local cigarettes (Individual) \$30.00 for group \$5.00 Band entertainment \$80.00 Tape entertainment
4	Fuel	\$35.00 private depot \$65.00 group depot \$500.00 KOIL agency
5	Bakery	\$65.00 Groups \$35.00 private
6	Hire of Vehicles and Vessels	\$300.00 for trucks to be hired \$50.00 for motorbikes to be hired \$20.00 for pushbikes to be hired
7	Sea cucumber agent Shark fin agents	\$1,000.00 \$100.00
8	Floats (Visiting ship floats)	\$100.00 per visit for big companies i.e. BKL, Taotin, Fair price etc \$60.00 per visit for private companies i.e. Ainete, Tokaraetina etc
9	Island nights	\$5.00/day for group \$2.50/day for individual

Source: Island Council Estimates 2007

The remoteness of Tamana from the mainland of South Tarawa provides one of the factors in slowing down the island and the people's development due to transportation and communication problems. As a small island with undeveloped infrastructure and a dualistic economy characterized by a growing dependency on imported consumables, trade and commerce on Tamana is becoming a very important activity. The bulk of supplies that are normally shipped to Tamana by scheduled or chartered island trips consist of rice, sugar, flour, tinned food, tobacco and fuel. Most of the times, these are transported as ordered from the island and also come in the form of floats otherwise, all of these are transported whenever there is a scheduled trip to Tamana by the Kiribati Shipping Company Ltd or any other vessel from Tarawa.

Cargo ships from overseas bring imported products only to Betio in South Tarawa that are then distributed to the rest of the islands all over Kiribati. Product prices in Tamana are the same as those in the Gilbert group, which contrast to product prices in the Line group that generally tend to be higher due to the cost of having to re-transport them from Tarawa to Kiritimati Island over a greater distance

compared to the outer islands in the Gilbert group. Where lack of cargoes used to not bother the islanders, it is now a big bother specifically for the growing generation who grew up on bread, doughnuts and rice amongst others. With the availability of fishing equipment to individual fishermen, the older generations are generally not seriously affected by these cargo shortages as they still live on coconuts, fish, pandanus cuisine and toddy.

5.1.5 Local Finance

In 1995, the Village Bank project was initiated by Government to serve as a micro credit facility for village communities in the outer islands. The objective of the project is to enable families to have easy access to a credit facility from which they could borrow money to start a small business. Funding for this project was provided by Government and shared among the islands and its village communities on a population basis. In the villages, a committee, consisting of a chairman, a secretary and a treasurer, is established to manage and administer the Village Banks funds. The Island Project Officer (IPO) based at each Island Council provides auditing and monitoring services to this project to ensure proper use of funds and sustainability. The operations of the Village Banks are governed under the Village Bank Act.

The following **Table 11** sums up the distributed grant to the village banks on Tamana:

	KIRIBATI GOV'T FUND OF 1\$MILLION						UNDP GRANT OF \$90,000		
	1ST 75% SHARE			2ND 25% SHARE			3RD SHARE		
BANK NAME	PAID	DATE	DW NO:	PAID	DATE	DW NO:	PAID	DATE	DW No
Itoin Tiainoa Barebuka	\$5,458.25	09/08/99	110/99	\$1,819.42	5/11/2004	109/04			
Bakaakaa	\$5,458.25	09/08/99	110/99	\$1,819.42	55/04		\$719.65	22/10/01	385/01
Bakarawa	\$5,458.25	09/08/99	110/99	\$1,819.42	55/04		\$719.65	22/10/01	385/01
	\$16,374.75			\$5,458.26			\$1,439.30		

Source: RPD, MISA 2007

The above three village banks are doing well and where their capital initially started at \$5,458.25, two of the banks balances have gone up to more than AU\$20,000 while the third suffered some setbacks and now has a balance less than AU\$20,000.

Each village bank have their own set of rules for their loan schemes which have improved from the initial rules when the village banks were first introduced. Auctioning off an individual's equipment, pushbike or anything of value used to be a popular way of ensuring that loans were repaid by the members. Members failing to repay loans on time would have their things taken by force and auctioned so their loan could be repaid. This rule has however been improved and now, people are taken to court if their repayment is not going according to what was agreed.

Most the loans from the village banks were initially for small businesses but have now expanded to include loans for purchase of pushbikes, motorbikes and also commonly for children's school fees, especially those in high school.

5.1.6 Remittances

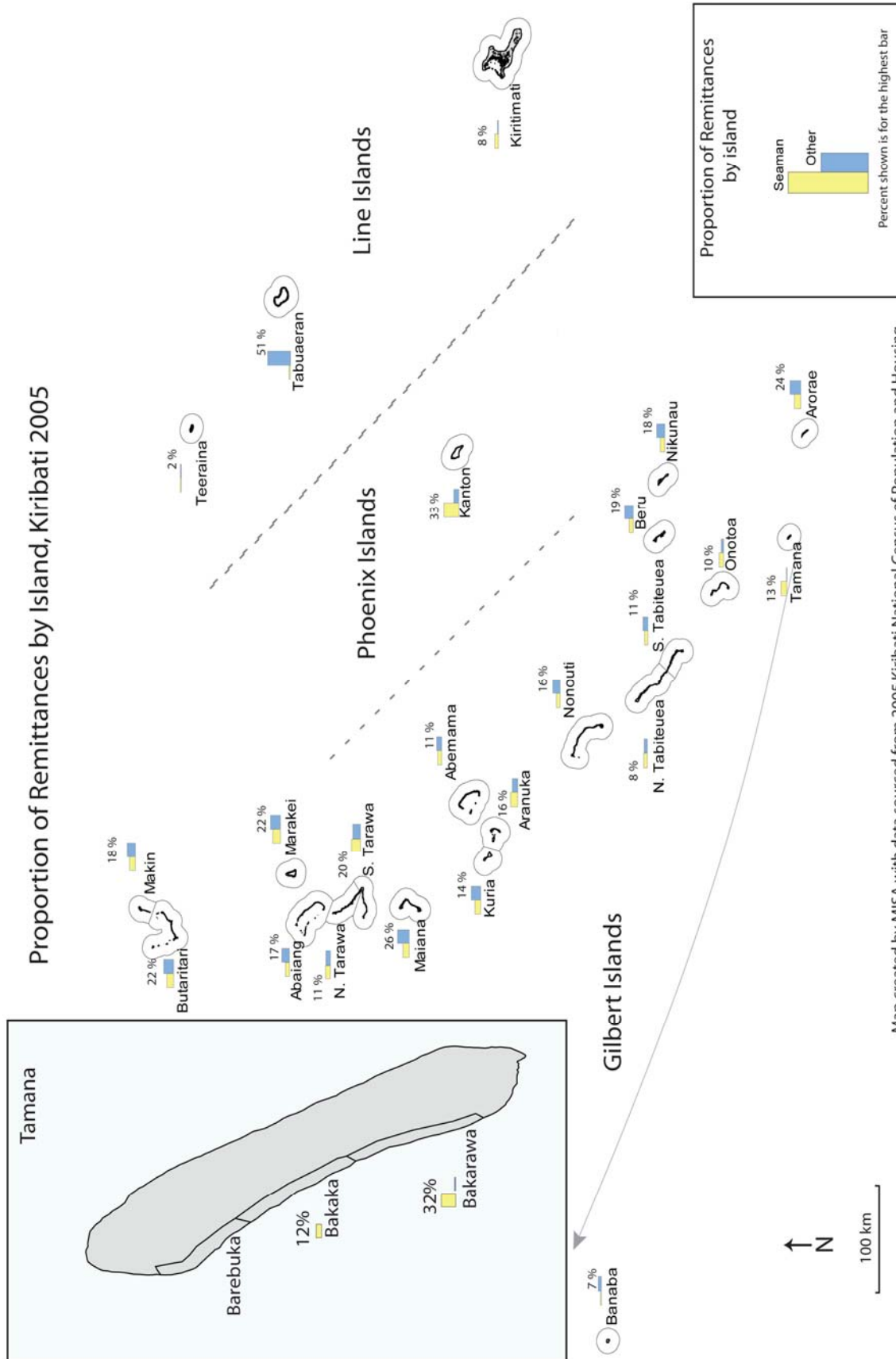
The general flow of seafarer's remittances into the country is continuous and has increased over the years with more engaged in seafaring employment. There are now two major employers of seafarers from Kiribati; 1. South Pacific Marine Services (SPMS) and; 2. The Kiribati Fishing Services (KFS)

Seafarers are employed as general deck workers on German ships through SPMS while Japanese employees are employed to be fishermen on the Japanese fishing vessels through KFS. The seafarer's salaries are paid straight into the individual accounts in Kiribati or family accounts. Money is also sent back to churches depending on individual seafarer obligations. Families are dependent on decisions made by their seafarer husband or son on how much remittance they will receive (M. Borovnik 2006).

Whitley (1980) reported that the amount of remittance sent back to Kiribati in 1974 was AU\$800,000 with an additional AU\$200,000 brought back in the form of leave pay at the end of contracts. Remittances grew to \$1.3 million in 1979, \$9.7 million in 1998 and \$12.29 million in 2003 (MFED 1987). Of this \$12.29 million, 86% came from those employed by SPMS while 14% came from those employed by KFS.

Remittances sent to parents and wives differ. Parents usually receive more money from their son when he is not married yet but once married, the son generally sends more money to his wife and family than his parents. There is also a tendency for smaller amounts being sent to the outer islands as most families tend to move to South Tarawa especially the wife and children while the parents are more happy to stay back home.

Remittances can be sent directly to families or they can be given after a special request (bubuti) to other extended family members for sudden needs such as 'botaki's (feasts) or for school fees. These kinds of requests usually vary and directed to straight to the members of the family employed by SPMS or KFS. A lot of these remittances have also been invested in homes (permanent buildings), cars, motorbikes businesses, home equipment (TV, media players, instruments) and to a big extent, school fees.

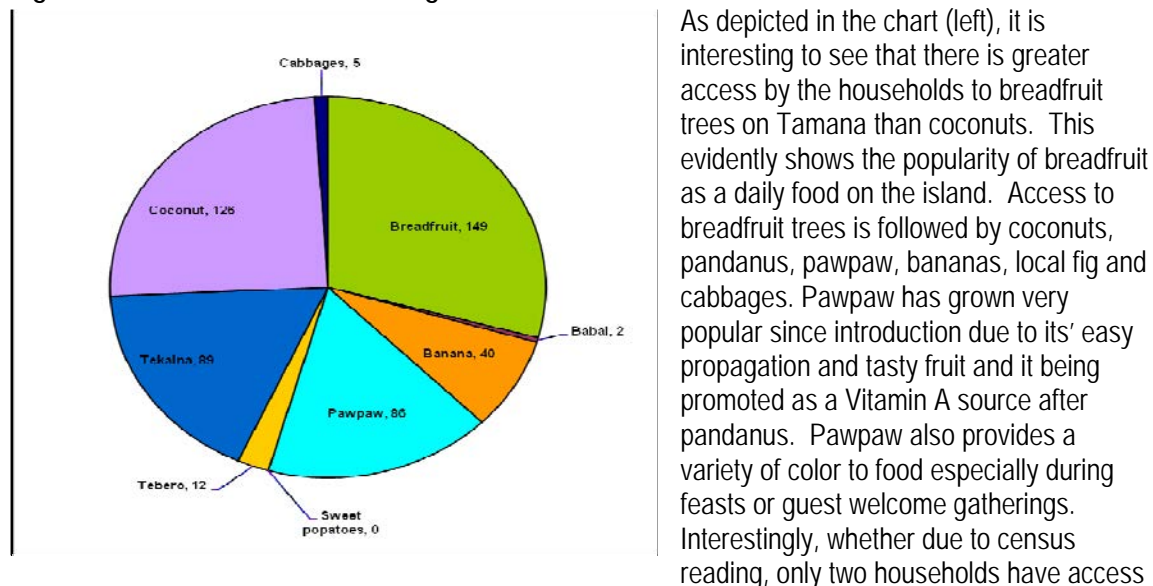


5.2 ECONOMIC ACTIVITIES

5.2.1 Agriculture

There is an Agricultural Assistant and a Nurseryman on the island whose responsibilities are to carry out the Agricultural headquarters outer island plans in agricultural and livestock development. Agricultural activities 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. The latter scheme however is not fully supported by the islanders as it is deemed a waste of time and effort due to most of the replanting schemes not bearing as much fruit as one would love them to bear. Besides, people have their own traditional cultivation methods that are most of the time linked to phases of the moon and considered more successful than the agricultural methods of spacing amongst others that only results in a lot of wasted space.

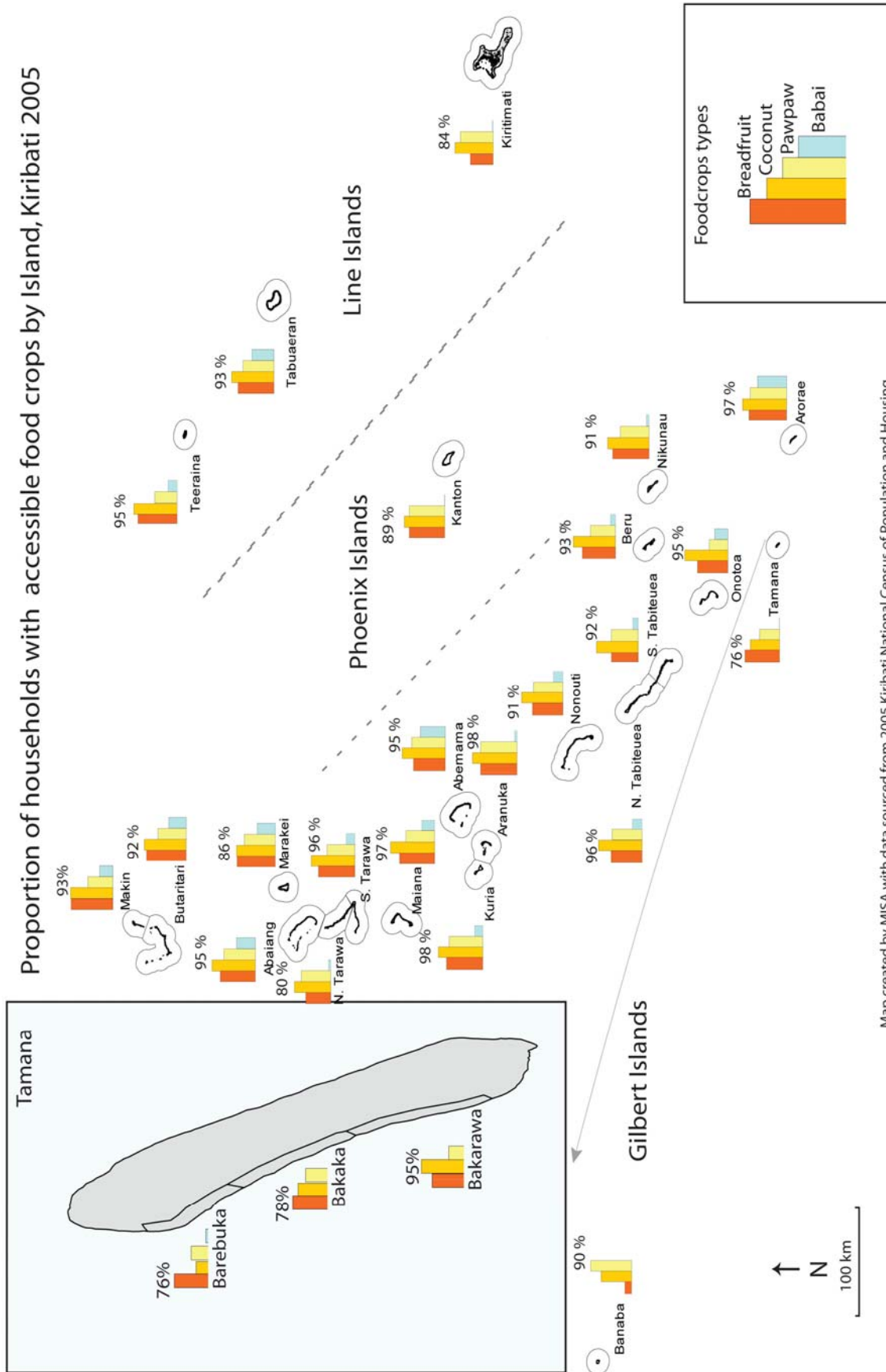
Fig 18: Access to food trees and vegetables 2005



to 'bwabwai' with 40 households accessing bananas, similar to 'bwabwai' in their requirement for water, which can be scarce on the island during times of drought and are therefore closely managed. However, the 2005 census 'access' is defined as those food trees that are located near households that are easily accessed. Therefore, in reality, the coconuts and pandanus are still the predominant food trees on the island. 'Te bero' (local fig) is another of the tree crops in Kiribati that is hard to cultivate and propagate as it can only be grown from cuttings and is generally rare on all islands in the country.

'Bwabwai' is kept solely for ceremonial occasions with cultivation methods closely guarded secrets that are inherited from the parents. Pandanus on the other hand are abundant in variety and amongst these, there are certain pandanus varieties that have assigned uses such as for pandanus paste ('tangauri' and 'tua'e'), pandanus powder ('kabubu'), pandanus strips ('kaakaa'), weaving and cigarette paper.

There are no strict inspection codes as yet for transport of foodstuff, plant materials and animals on the ships and planes that visit the island and thus agriculture is vulnerable to introduced pests. The threat from 'bwabwai' beetle has been solved through strict regulations of 'bwabwai' being taken from South Tarawa to the outer islands. It falls upon the Agricultural Assistant to inspect all visiting aircrafts and sea vessels to check that 'bwabwai', bananas and exotic plant life are not brought to the island without proper quarantine clearances and certificates.

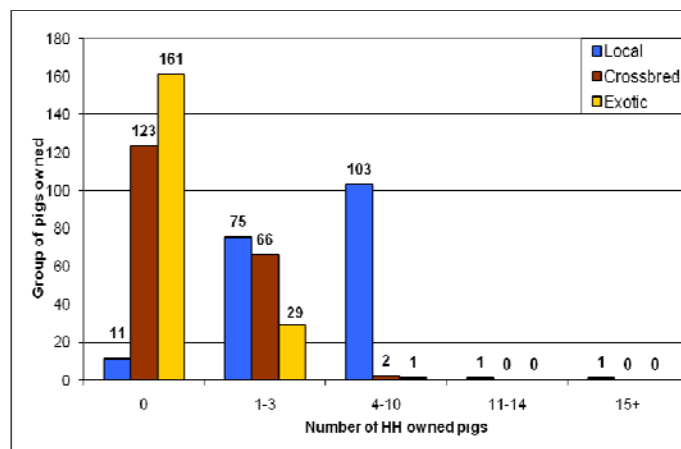


Agricultural gardening competitions are carried out as appropriate when prizes are available. Prizes for these gardening competitions comprise agricultural equipment such as shovels, spades, wheelbarrows, picks and seeds. Points are given for garden vegetable varieties, layout/landscape, performance of plants, availability of other needed gardening needs such as composting heaps and watering holes.

5.2.2 Livestock

Livestock on the island comprise pigs and chickens of both local and exotic breeds. The local pigs and chickens were documented as having been introduced in the early days before Kiribati became a British protectorate and later exotic breeds were introduced as part of the Division of Agriculture's plans to develop agriculture and livestock on the outer islands of Kiribati. Local pigs vary in color and sizes and are very short, rarely reaching a height of 1 meter whereas the introduced local breeds if managed properly grow higher than a meter and actually are nicknamed as 'horses' by the locals who never cease to marvel at the height and size that these exotic breeds can grow to. Crossbred with a local breed, the progeny are normally faster growing taller pigs with higher food conversion rates and good breeding qualities e.g. more piglets per litter.

Fig 19: Households owning pigs



Exotic breeds of pigs and chicken have been introduced for cross-breeding with the local breeds. The idea of owning a great big pig such as the introduced breeds resulted in initial high demand for the exotic breeds of pigs. This however lost popularity when the exotic breeds were found to be unable to perform well on a local diet. Through lessons learned, locals are now happy to own exotic breeds only so they can cross them with their own local pigs to get better progeny.

Generally, pigs are more popular as domestic animals because they are the major source of meat during family, church and island feasts. It is extremely rare in the whole country for one to kill a pig solely to eat pork as they are kept specifically for important feast and functions when whole baked pigs grace these feasting tables and is the most sought after food at such times. As portrayed in the above chart, 161 (82.1%) of the households do not own exotic breeds however 29 (14.8%) households own 1-3 exotic pigs while 1 household owns more than 3 but less than 11 of these exotic breeds. 11 (5.6%) households do not own any local pigs, 75 (38.3%) own 1-3 local pigs while 103 (52.6%) own 4-10 pigs and the rest two households each owning more than 11 local pigs. The introduction of these exotic breeds has allowed crossbreeding with local pigs resulting in better performing crossbreeds that can grow well and fast on local food alone and have better litters. There are a total of 903 pigs (*NSO 2005 census*) distributed throughout the island as owned by the households on Tamana. Of this 903, there are 756 local pigs, 101 crossbreeds and 46 exotic pigs.

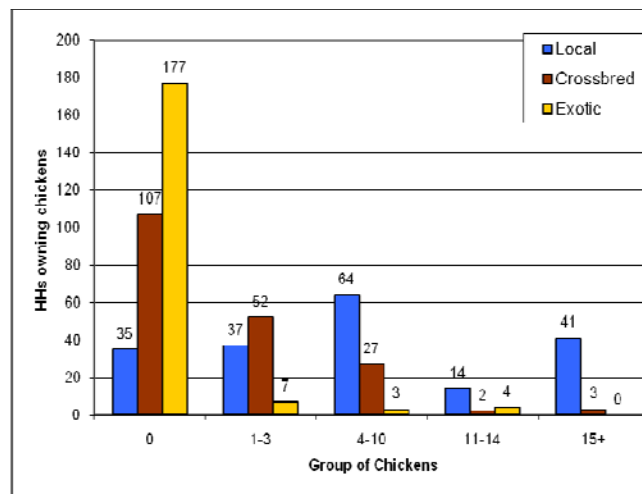


Five (5) exotic breeds have been imported into the

country by the Division of Agricultural that have been distributed throughout Kiribati for crossbreeding purposes. These breeds include the Duroc, Landrace, Berkshire, Large White and Tamworth. Pictured above is one of the progenies of the imported exotic breeds that has been crossed with a Berkshire boar at the Division of Agriculture in Tanaea, South Tarawa.

Chickens on the other hand totaled 1,947 chickens from which there were 1,043 (53.6%) local, 304 (15.6%) crossbred and 73 (3.7%) exotic chickens.

Fig 20: Households owning chickens



Chickens are free-ranged and most are kept domestically for households own meat protein supplements and, like pigs for special occasions. As free range chickens, they inter-mingle with chickens from other households resulting in crossbred chickens. Where the hens are kept for laying eggs to produce more chickens, the roosters are kept to breed with the hens as well as for their feathers that are popularly used in decorating fish lures. As is quite prevalent in the islands, the free-range management of chickens on the outer islands has impelled marking of chickens to declare ownership of the chickens. These

markings include chopping off certain claws of the chickens or tying certain colored pieces of cloth to the feathers or legs. Eggs are rarely eaten unless important guests/functions are present or when it is required as part of a medicinal ingredient.

Unlike pigs, free ranged chickens are not liable to fines or confiscation by Island Councils whereas free-ranged pigs on the other hand are considered an offense against the law, liable with fines or confiscation of the pigs. The confiscated pigs can be released to owners at a fee of \$20.00 and where not, they are auctioned off to the public. Pigs are kept in pig pens or tethered under shades of trees as is common throughout the islands of Kiribati.

Even though, both pigs and chickens are kept for own consumption, sale opportunities to supplement their meager incomes are never passed by especially when one has a lot of pigs or chickens and does not have an upcoming family or village function. Pigs are sold at \$3.50/kg live weight, as most would rather buy them live due to pig blood at slaughter being a local delicacy during these feasts. There are no known diseases specific to Tamana livestock but factually, the pigs and chickens alike are free from infectious and dangerous diseases such as the well known avian influenza in chickens or trichinella in pigs. However, these exotic breeds of chicken are prone to 'botulism' once released to the outer islands making it hard to for exotic breeds to live long on the islands. Crossbreeding does happen resulting in more resistant crossbreds with higher laying characteristics, tender meat and faster growing rates.



Other than providing cultivation and gardening services to the public, Agricultural Officers also castrate pigs and carry out routine injection of pigs on the island for worms and mange, the common pig ailments in Kiribati. Sterilization of cats and dogs are carried out from the Animal Health Division within the Agricultural Department who visit individual should the need to sterilize the domestic animals arise.

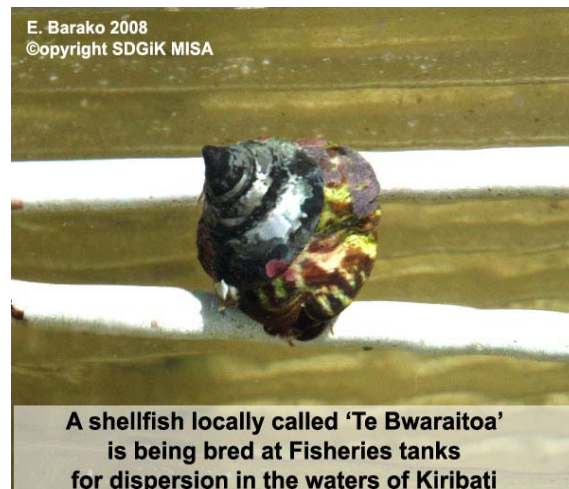
5.2.3 Fisheries

Fishing is at large, a routine activity for the men which they carry out when the seas are calm, and whenever home fish reserves have run out while others fish whenever they can as a hobby and to pass the time away. An ice-plant has just been recently completed in 2007 and this has provided an easy income generation alternative to the people of Tamana. Fish jerky is still a common product throughout the island and is provided as gifts to guests, sold to others and exported to relatives in other parts of Kiribati mostly to those in South Tarawa. There are many different kinds of fishes that serve as food for the Ikiribati and special methods are utilized for certain species or groups of species. These methods are standard amongst the fishermen but individual variation does exist (*Preston E. Cloud Jr. 1952*) which are most of the time kept within families.

As islands, households have been harvesting the sea in one way or another, initially to satisfy their own subsistent needs and to send salted fish (fish jerky) to relatives in other parts of Kiribati mostly South Tarawa and lately for domestic sale to others unable to fish, most of the time Council staff living at the Council quarters in Buraitan. The ice-plant has allowed the fishermen to sell their surplus catch to the plant at \$1.20/kg and in turn, the ice-plant sells it out to the general public on Tamana at \$1.40/kg which is quite cheap considering that in South Tarawa, the market price of fish is at \$1.50/lb. Ice is also sold from the ice-plant at \$1.00/kg.

The Ministry of Fisheries and Marine Resource Development supports fisheries development on the outer islands through:

- the provision of technical staff for training, advisory and resource monitoring/evaluation purposes;
- research and trialing of new fishery-related projects;
- the sourcing of funds for implementation of national projects (such as cold storage (ice plants), etc.)
- the provision of affordable fishing gear.



There is a technical fisheries assistant on the island who assists with fishery government projects on the island as delegated from the Fisheries Division in Tanaea. The Fisheries Division in Tanaea is also carrying out many breeding projects on some potential marine resource developments such as breeding of pearl oysters, white teatfish and the 'bwaraitoa'. Pearl oysters are part of the Fisheries trial projects in Butaritari, Abemama and Onotoa where they are providing young pearl oysters to these islands for trial purposes to see how they would fare. This project is however only aimed at islands with lagoons thus Tamana is not included in the project. The white teatfish are also bred in the tanks and then dispersed in the waters on the outer islands of Kiribati where they are most likely to breed. Buttons (shirts etc) are made out of the 'bwaraitoa' which according to Fisheries is not that abundant in the country and thus they are also breeding this shellfish for dispersal in the country waters.

5.2.4 Handicrafts

A few years ago, Government established the Kiribati Handicraft and Local Produce Company (KHLP) to encourage people to make handicrafts and local products for commercial purposes. The company buys materials from the outer islands and then re-sells them to the urban population, as well as foreigners. However, despite the existence of KHLP, the level of production is still very small. Among other reasons, KHLP faces staffing and funding difficulties that results in its inability to adequately absorb production from the outer islands.

Handicrafts from Tamana are mostly mats made by the women.

The most common handicrafts by the women from Tamana are:-

- Mats of different sizes most notably the 'tourobwa' and 'white mats'
- Baskets of assorted sizes and makes
- String
- 'Rauara' (Cigarette paper made from peeled pandanus leaves)



5.3 INFRASTRUCTURE

The establishment and maintenance of development infrastructure on the island is the responsibility of government and thus the Tamana Island Council. The central government normally takes responsibility of implementing new development projects while the local government is given the responsibility of maintaining such projects upon completion. Local government authorities are allocated some money every year under a "Support Grant" to enable them to perform this role. The project funds from donors and Government for island council priority projects have also assisted greatly in the development of infrastructure on the outer islands including Tamana. Council priority projects since 2004 that have been approved and implemented that are mostly infrastructural included those in the following table:-

Government schools and medical facilities are all the responsibility of the Government including staff living quarters. Where working facilities are maintained by Government employees through the Ministry of Works & Energy, government employee living quarters are maintained by the Councils with funds provided by the Government.

The most predominant infrastructure on the island is the church built in the late 1800s after introduction of the LMS church by the Samoan missionaries. It was built from limestone with frames initially of local coconut and pandanus wood and a pandanus thatch roof. Over the years, this church has been continuously renovated and upgraded and now stands as a modern looking church made from permanent materials. The limestone walls are still as they were when the church was first established and the limestone underwent massive heating before it was hacked out from the foundation of the island and used to build the church.

5.3.1 Land Transport

Island Council trucks provide the main transport for Primary and JSS students to and from their schools and general use by the Council.

The most common form of land transport is the pushbike followed by motorbikes and trucks. Motorcycles ranks second in popularity, as they are generally more expensive than pushbikes. Due to the high cost of truck vehicles, difficulty in transportation, there is only one truck on the island, the JSS truck owned by the Island Council. Council charges a small fare for pupils and inter-village travelers in order to raise funds to meet the truck's operational cost and maintenance - \$0.10/trip (one way) and \$0.15 for adults.

As a small island, it takes about an hour to go round the island by pushbike (*M. Roman pers. comm.*) thus the popularity of pushbikes. Motorbikes are however also popular as they make traveling a lot easier plus they can also be hired out to visiting officials at a cost of \$20.00 per day. Trucks most of the times are hired when there are island functions requiring most of the communities to attend at which time trucks can be hired. In other cases, a truck is hired to transport coconuts, wood, gravel or sand from the bush or other parts of the island, far from the villages.



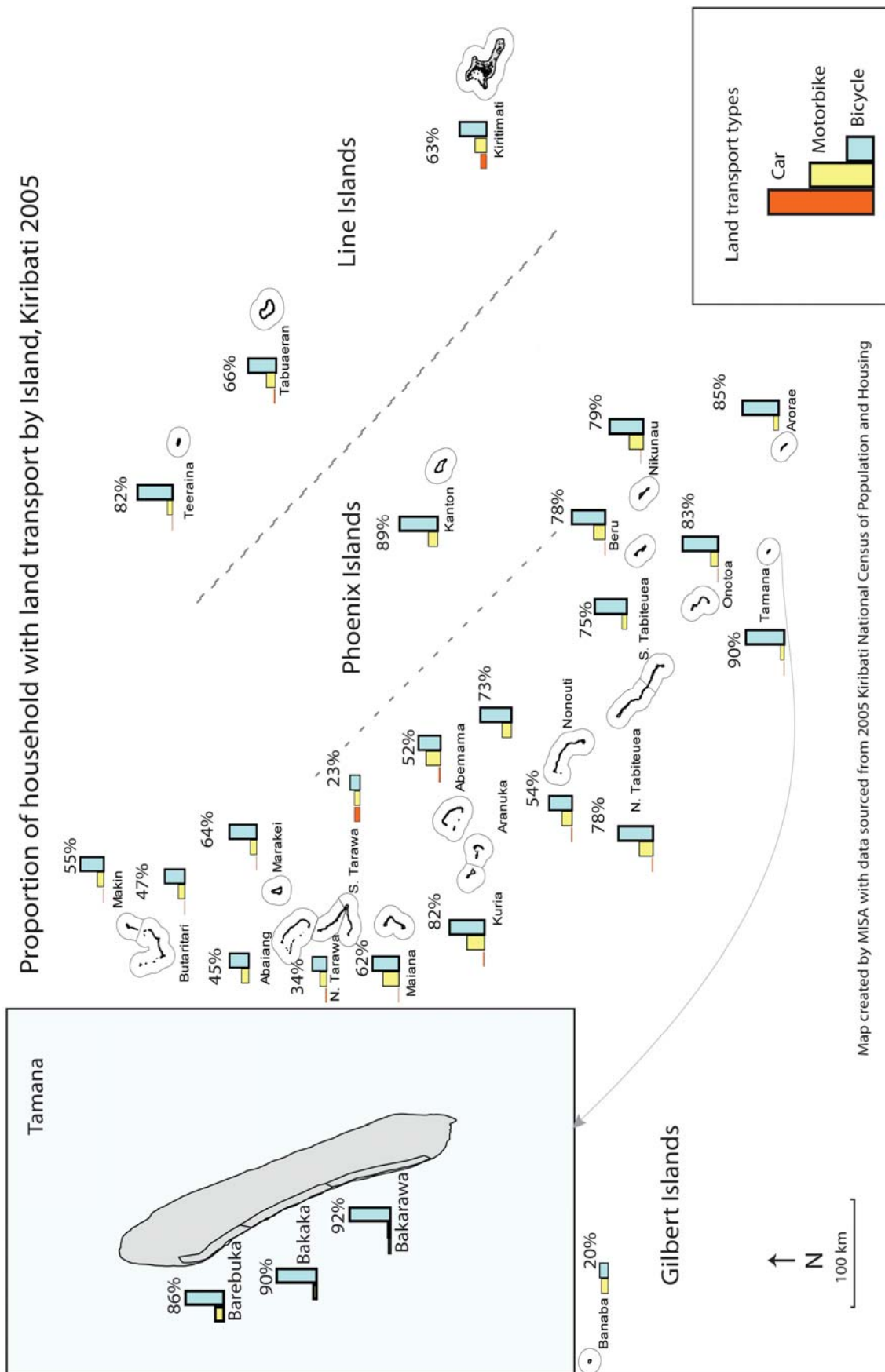
A young man ready to go and cut toddy. Pushbikes are the main means of transport for the islanders

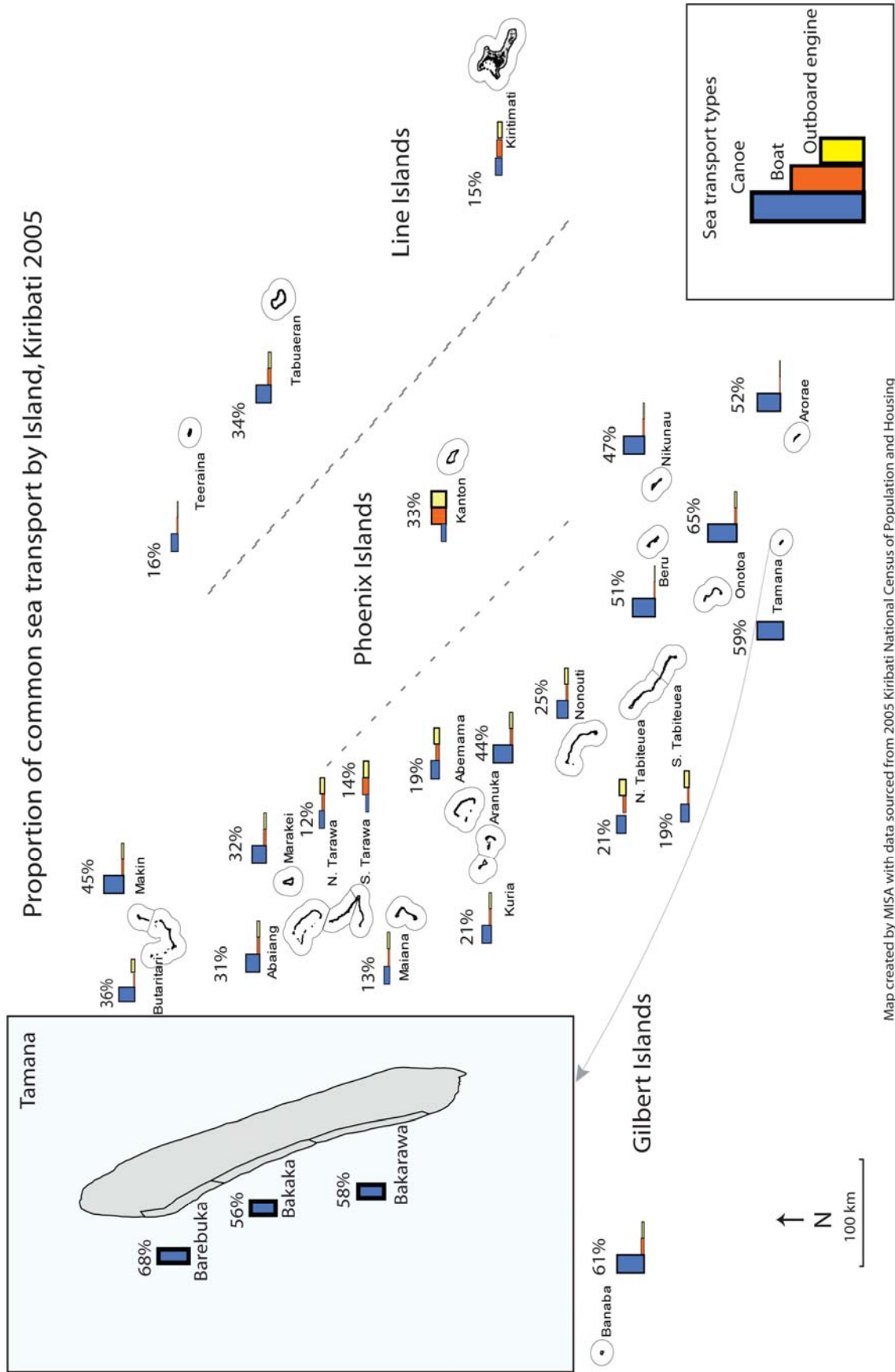
5.3.2 Sea Transport and Shipping

Kiribati is a nation of fragmented islands dispersed over a vast ocean area that extends almost 3,000 kilometers across the central Pacific, bordering the Marshall Islands in the east and French Polynesia in the west. This fragmentation and vastness of ocean give rise to major communication and transport problems that have been, and will continue to be the greatest development challenge for government. Shipping is a critical service that needs to be provided and maintained between Tarawa and the outer islands, in order to facilitate the transportation of supplies to and from the islands. Government has been

the major shipping operator since colonial times, and continues to dominate this service, although private businesses have secured an increasing share of the market. Still, central government attempts, through its shipping line – Kiribati Shipping Services Limited (KSSL) – to serve all islands in the country near and far.

The Kiribati Shipping Services Company Ltd. (KSSCL) is a Government company that provides the basic shipping services to all the outer islands of Kiribati. However, there is also an increasing number of privately owned boats that are also providing shipping services to the outer islands including 'Bwaan te Tangira' owned by the Onotoans, 'Te Ataana' owned by a Phillipino resident, and others.





Map created by MISA with data sourced from 2005 Kiribati National Census of Population and Housing

5.3.3 Air Service

There is only one air service to the outer islands of Kiribati provided by the 'Air Kiribati', a Government owned company. Flight schedules to the islands differ as well as airfares. This air service does not include the islands in the Line & Phoenix group.

Due to their remoteness, the Southern islands excluding Tabiteuea North have only one flight a week while there are more flights to the central and northern islands in a week. The Southern flight schedules comprise flying to two islands at a time. The Tamana flight used to be and still is flown in conjunction with Arorae every Thursday thus passengers on these Thursday weekly flights include Tamana and Arorae passengers.



One of the other reasons for weekly flights to the Southern islands is the lack of weekly passengers to these islands. This lack of passengers is attributed to the airfare that was deemed high by the islanders and recently, when the fares were cut to nearly half the rate it used to be, the Southern island flights were always full resulting in more passengers and not enough airplanes. Fares have been ever changing over the years and the latest change was in 2009 when most islands except for Tamana and Arorae experienced a drop in fares since the last increase earlier during the year.

Peak flights are generally during the school holidays, Easter, Independence celebrations, Christmas, and New Year holidays. Flights to Tamana are still every Thursday of the week with fares initially at \$146.00, cut to \$72.00 and now at \$230.00 one way. Excess baggage during flights generally costs more than those weighed in before the scheduled flights.

AIR KIRIBATI TARIFF	
Effective 1st July 2009	
Makin	\$90.00
Butaritari	\$72.00
Marakei	\$36.00
Abaiang	\$30.00
Maiana	\$30.00
Kuria	\$55.00
Aranuka	\$55.00
Abemama	\$55.00
Nonouti	\$100.00
TabNorth	\$120.00
TabSouth	\$135.00
Onotoa	\$150.00
Beru	\$160.00
Nikunau	\$170.00
Tamana	\$210.00
Arorae	\$230.00

Table 21 (right) Table 22 (below) Airfare and flight schedule to Tamana

Thursday	Y-12	Tarawa	0900	TabNorth	1015
		TabNorth	1045	Tamana	1130
		Tamana	1150	Arorae	1215
		Arorae	1235	Tamana	1300
		Tamana	1320	TabNorth	1405
		TabNorth	1435	Tarawa	1550

Source: Air Kiribati Bairiki 2009

5.3.4 Issues facing Transportation

Land transportation on the island is not an issue as the Tamana Island Council has a truck and people have their own pushbikes and motorbikes. The issues leans more toward transportation to and from the island for the islanders, visitors as well as for cargoes and foodstuff and the high cost of pushbikes and motorbikes.

Transport hire costs on the outer islands like Tamana have been geared towards the local community being able to afford the hire of a truck especially for transporting of coconuts and other materials from the bush or other parts of the island.

5.3.5 Communication

Until a few years ago, the main mode of communication between the islands was with HAM radio communication systems operated by TSKL. Each island has one such system based at the Island Council headquarter on the island. Members of the public normally use this for inter-island communication, as does the Island Council and central government in Tarawa. However, despite the fact that the system has been dependable and effective, there were a few problems relating to its use, among which are:

- the system is not safe for sharing of private information, since the frequency used can be accessed by anyone with such a radio, and the radio equipment is operated by a TSKL agent.
- the use of the radio is dictated by a schedule, hence only available for 1-2 hours daily, and only from Mondays to Fridays.
- the radio operator lacks the skill to undertake major repair works if the radio breaks down. Communication with the island could be cut for at least one week during which the radio is sent to Tarawa for repairs or awaits a technician from South Tarawa.
- since there is only one radio, people from distant villages must take long journeys in order to use it.

In order to address these problems TSKL decided to slowly introduce a new technology, a satellite-based telephone system which connects directly to the telephone system in Tarawa. The new system also supports the use of facsimile and internet, and therefore was considered a major accomplishment as far as progress is concerned. This system on the outer islands is powered by 450 solar panels that harness this solar to 1000 amp. batteries (Turabu pers. comm.).

However, this system not only has to be extended to Tamana, it also costs more to use compared to the radio; connection is vulnerable to rough weather conditions, and people still need to travel to Council headquarters to make a call. Nonetheless, it provides more privacy when talking to relatives on other islands especially South Tarawa and Tamana being a small island, travelling to the Council is not an issue. It is also important to note that the government through TSKL is making an effort to improve the communication systems for the outer islands and as such has plans to establish tele-centers on the rest of the outer islands including Tamana. The last response from TSKL was that construction of it on the island was delayed awaiting the arrival of equipment from overseas.

Like the rest of the islands in Kiribati, Tamana is equipped with several CB radios at the different sectors on the island:

- Police quarters
- Island Council office operated by the radio operator employed by the Council
- Health Center
- Church (ICC)
- BKL
- Air Kiribati

The Island Council Office CB radio is used for inter island phone calls by the general public on the island at a cost of \$3.50 for the first 3 minutes and \$0.05 per minute thereafter. The Police and Medical radios

are used solely by the individual officers for their own inter-department calls for supplies and emergencies. The Air Kiribati radio is used for communicating passenger and flight details. These CB radios by their nature are not used by the public unless it is also an emergency of some kind when the Island Council radio cannot be accessed or is broken.

5.4 Millennium Development Goals indicators

As a member of the global community, Kiribati has an important obligation to strive to achieve the Millennium targets that were agreed during the UN World Summit of 2000. Over the past 7 years or so since the Millennium Goals were set, Kiribati has been inactive in as far as addressing the specific requirements of the MDGs is concerned, though regular activities in the various social and economic sectors of the society (specifically health and education) were progressing as usual under the armptit of Ministry Operational Plans. It was not until 2006 that real efforts were made to put Kiribati on track in addressing its MDGs obligations. Government, through its National Planning Office, coordinated the preparation and compilation of the first national MDG status report. The purpose of the report is to outline what Kiribati has achieved so far relative to MDG targets, bearing in mind that activities have been undertaken incoherently by the different ministries of Government.

A multi-agency team had attended regional workshops aimed at assisting individual countries to move forward so that they achieve their targets by 2015.

As one would observe, this profile is simply a collection of information and statistics on each of the 23 islands in Kiribati. As such it was thought that the inclusion of MDG indicators in the profile will not only help to achieve the purpose of the profile, which is to serve as an important planning and decision-making tool, but also provide the means to address MDGs at the sub-national level. So in effect, this document will hopefully complement the Kiribati MDG national report by providing island-based data and information that may not be possible to extract from consolidated national statistics. Furthermore, the profile will serve to be a monitoring mechanism to assess the performance of an island in relation to the various goals and targets of the Millennium Declaration.

The matrix below summarizes MDG performance, with data from Makin provided where possible as a means to assess how the island is doing in comparison to the country as a whole.

The Millennium Development Goals, Targets and Indicators - Kiribati (and Makin) 2007

Goal 1: Eradicate extreme hunger and poverty			
TARGETS	INDICATORS	KIRIBATI PROGRESS*	TERAINA STATUS
1. Halve between 1990 and 2015 the proportion of people whose income is less than \$1.00 a day	1. Proportion of population below \$1.00 a day.	The 2005 HIES states that the per capita annual income for all people in Kiribati was \$1,400 which translates to \$3.84 a day. In calculating this, the value of subsistent production was taken into account.	NA
	2. Poverty Gap Ratio (incidence and depth of poverty)		N/A
	3. Share of poorest quintile in national consumption		N/A
2. Halve between 1990 and 2015 the proportion of people who suffer from hunger	4. Prevalence of underweight children (U5 years of age)	N/A	N/A
	5. Proportion of population below minimum level of dietary consumption	N/A	N/A
Goal 2: Achieve universal primary education			
3. Ensure that by 2015 children everywhere, boys and girls alike, will be able to complete a full course of primary schooling	6 Net enrolment ratio in primary education	The net enrolment ratio for Kiribati in 2006 is about 96% (MDG Report)	NA
	7 Proportion of pupils starting grade 1 who reach grade 5	In 2006 the proportion of pupils starting grade 1 and reach grade 5 is over 120%	NA
	8. Literacy rate of 15-24 year olds	96% (2005)	NA
Goal 3: Promote gender equality and empower women			
4. Eliminate gender disparity in primary and secondary education preferably by 2005 and to all levels of education	9. Ratio of girls to boys in primary and secondary education.		NA
	10. Ratio of literate females to males of 15-24 years old.	1:1 (2005)	NA

by 2015	11. Share of women in wage employment in the non-agricultural sector	65% (2005)	
	12. Proportion of seats held by women in the national parliament	10% (2007) highest in 17 years	N/A
Goal 4: Reduce child mortality			
5. Reduce by two-thirds between 1990 and 2015 the under-5 mortality rate.	13. Under-five mortality rate	25% reduction between 1990 and 2004	N/A
	14. Infant mortality rate		N/A
	15. Proportion of one-year old children immunized against measles.	95% coverage 2006	N/A
Goal 5: Improve maternal health			
6. Reduce by 3/4 between 1990 and 2015 the Maternal Mortality Ratio (MMR)	16. Maternal Mortality Ratio	100/100,000 (MDG Report 2007)	N/A
	17. Proportion of births attended by skilled health personnel	90% (2005)	N/A
Goal 6: Combat HIV/AIDS and Tuberculosis			
7. Have halted by 2015 and begun to reverse the spread of HIV/AIDS	18. HIV prevalence among pregnant women aged 15-24 years.	0/100000 (MDG Report 2007)	N/A
	19 .A. Condom use at last high-risk sex.	n/a	N/A
	19.B. Percentage of population aged 15-24 with comprehensive knowledge of HIV/AIDS	n/a	N/A
	19.C. Contraceptive Prevalence Rate (CPR)	25% (MDG Report)	N/A
8. Have halted by 2015 and begun to reverse the spread of Tuberculosis	23. Prevalence and death rates associated with Tuberculosis.	403/100000 and 10/100000 (MDG Report 2007)	N/A
	24. Proportion of Tuberculosis cases detected and cured under DOT	100+% (MDG Report 2007)	N/A
Goal 7: Ensure environmental sustainability			
9. Integrate principles of sustainable development into the country's policies and programs and reverse the loss of environmental resources.	25. Proportion of land area covered by forest	n/a	N/A
	26. Land area protected to maintain biodiversity	200 square kilometers of land earmarked for protection in Christmas island.	N/A
	27. GPD per unit of energy use (as proxy for energy efficiency)	n/a	N/A
	28. Carbon dioxide emission per capita.	n/a	N/A
10. Halve by 2015 the proportion of people without sustainable access to safe drinking water.	30. Proportion of population with sustainable access to an improved water source urban and rural (piped to house hold or standpipe)	no clear data	N/A
	31. Proportion of population with access to improved sanitation (flush or water sealed latrines)	calculate from census	N/A
11. By 2020 to have achieved a significant improvement in the lives of at least 100 slum dwellers	32. Proportion of households with access to secure tenure		N/A
Goal 8: Develop global partnership for development			
12. Develop further an open, rule-based, predictable, non-discriminatory trading and financial systems, including a commitment to good governance, development and poverty reduction both nationally and internationally.	34. Proportion of ODA to basic social services (basic education, primary health care, nutrition, safe water and sanitation)		N/A
	37. ODA received in small island developing states as proportion of their GNI		N/A
13. Address the special needs of developed countries - includes tariff and quota free access to LDC exports; enhanced program of debt relief for HIPC and cancellation of official debt and more generous ODA for countries committed to poverty reduction.	38. . Proportion of exports (by value and excluding arms) admitted free of duties and quotas		N/A
	39. Average tariffs and quotas on agricultural products, textiles and clothing		N/A

15. Deal comprehensively with the debt problem of developing countries through national and international measures in order to make debt sustainable in the long term.	44. Debt sustainability: Debt service as percentage of exports of goods and services		N/A
16. In cooperation with developing countries develop and implement strategies for decent and productive work for youth.	45. Unemployment rate of 15-24 years old, each sex and total		N/A
17. In cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries	46. Proportion of population with access to affordable, essential drugs on sustainable basis		N/A
18. In cooperation with private sector, make available the benefits of new technology especially information and technology.	47. Telephone lines per 1000 people		N/A
	48A Personal computers per 1000 people		N/A