

# **Survey Design Proposal**



**2009**

**Kiribati**

**Demographic Health Survey**

## **1. Introduction**

The following document details the procedure proposed for the survey design for the 2009 Kiribati Demographic Health Survey (DHS).

Covered in the document are the following issues:

- a) Sample size and allocation options
- b) A proposed sample selection strategy
- c) The make-up and activities of the fieldwork teams
- d) Timing of activities
- e) Other field issues to address
- f) Survey budget

It should be emphasized that this is currently nothing more than a proposal, and as such comments are welcome from all parties involved in the survey.

The document does not aim to be a comprehensive overview of all issues which need to be addressed during the conduct of the survey. The main focus is on the sample design and field logistics which need to be addressed during the course of the survey.

## **2. Sample Size and Allocation**

### **2.1 Survey Reporting Requirements**

The Demographic and Health Survey has three different survey schedules addressing:

- household characteristics
- women's health issues
- men's health issues

Questions for the two individual questionnaires are only asked of men and women aged 15-49 years of age.

The standard practice for a DHS is to produce results at both the National level as well as Urban/Rural splits. Whilst it would be nice to generate results at an island level, for those selected islands, it was not considered viable due to the expected small sample sizes at the island level. The sample selection for this survey therefore solely focused on a design which would only generate national and urban/rural level results, as per the standard practice.

## **2.2 Desirable Sample Size**

In order to achieve results of a suitable level of accuracy at both the national level and for the urban/rural splits, it is the standard practice for a DHS to achieve a responding sample of 1,000 women for both the urban and rural areas separately. Due to the more robust nature of indicators from the men's survey (ie, the less reliable indicators such as infant mortality and maternal mortality, etc aren't collected from this questionnaire), a responding sample of 500 men from both urban and rural areas is considered sufficient.

Whilst it is difficult to predict the level of sample loss for a survey of this nature, a recently conducted survey in Kiribati addressing the topic of Family Health and Support had achieved a response rate of around 80 per cent. Given the similar nature of the topic, it would be fair to assume a similar response rate for the upcoming DHS.

Given households will be the main selection unit for the survey, it is important to have knowledge of how many in-scope (age = 15-49) women and men, on average, reside in a typical household. Based on the 2005 census of population, those figures were found to be:

Region	Households	Males 15-49		Females 15-49	
		Total	Ave/Hh	Total	Ave/Hh
Urban	5245	10549	2.01	11580	2.21
Rural	8754	12830	1.47	12761	1.46
Total	13999	23379	1.67	24341	1.74

Combining the information above, it can be determined that a suitable number of households to select for the sample to achieve the required levels of accuracy would be:

Urban (Sth Tarawa) – Women's survey

$$1,000 / (0.8) / 2.21 = 566$$

Urban (Sth Tarawa) – Men's survey

$$500 / (0.8) / 2.01 = 311$$

Rural – Women's survey

$$1,000 / (0.8) / 1.46 = 858$$

Rural – Men's survey

$$500 / (0.8) / 1.47 = 427$$

Fine tuning of the urban sample size

To keep things simple in the field it was decided to have the men's sample half the size of the women's sample. That way field staff can enumerate in-scope males from every second household selected. To achieve this it is also planned to adopt a cluster size of 20 households for the urban sample (that is, select 20 households from every selected EA).

Given a half sample for the men's survey, the cluster size for this component will be 10 households. If we round up the sample size above to the nearest 20, the allotted sample for the urban area to meet the needs of the women's component will become 580, but half of this will not meet the requirements of the men's sample ( $290 < 311$ ). To overcome this problem it was decided to base the final sample on the men's survey requirements, and thus over sample for the women's survey. The final sample for the men's survey was therefore calculated by rounding up the sample size above to the nearest 10. This resulted in a sample of 320 for the men's survey. Double this resulted in a sample of 640 for the women's survey.

Final sample size for the urban sample was therefore:

Women's Survey: 640 HHs  
Men's Survey: 320 HHs

#### Fine tuning of the rural sample size

The fine tuning of the rural sample was done once the selection of islands was done, and a suitable allocation was determined. This is discussed in section 3 of this report.

### **2.3 Scope Reduction**

Kiribati is often considered as comprising of three island groups. These groups and their inhabited islands include:

- Phoenix Islands (Kanton)
- Line Islands (Christmas, Teeraina, Tabuaeran)
- Gilbert Islands (all other islands listed in 2.1)

Kanton can be excluded from the scope of the survey as only 41 people resided on this island during the 2005 census, and its exclusion will have minimal impact on survey results. It is also extremely difficult to reach.

Consideration was also given to excluding the Line Islands due to the significant costs of covering this island group during enumeration. There are a significant number of in-scope people residing in this island group (17% of the rural population), so it was considered appropriate to cover them in the survey to increase the credibility of rural estimates from the survey. Having said that, the inclusion of the Line Islands will add considerable cost to the survey, which also needs to be considered. In order to address this, more than once sample design was produced; one which included the Line Islands and one which excluded them.

For the Gilbert Islands, only Banaba (with an estimated population of 301 during the 2005 census) was excluded from scope due to difficulties in reaching this island.

## **2.4 Stratification and Sample Allocation**

Despite it being necessary to only generate estimates at the urban/rural level, it was decided it would be worthwhile to further stratify the outer islands in order to achieve better representation of this sector. The stratification adopted for the 2006 Household Income and Expenditure Survey (HIES) and the 2008 Family Health and Support Survey (FHSS) was therefore adopted. This involved creating 3 strata for the Gilbert Islands (Northern, Central and Southern), and a separate strata to cover the Line and Phoenix Islands. South Tarawa was left as is, as the 5<sup>th</sup> strata.

The islands making up the 4 outer islands stratum are:

<u>North Gilbert</u>	<u>Central Gilbert</u>	<u>South Gilbert</u>	<u>Line/Phoenix</u>
Makin	Kuria	Nonouti	Kiritimati
Butaritari	Banaba	Tabiteuea North	Tabuaeran
Abaiang	Maiana	Tabiteuea South	Teeraina
Marakei	Aranuka	Beru	Kanton
Nth Tarawa	Abemama	Nikunau	
		Onotoa	
		Tamana	
		Arorae	

As discussed above, half of the sample will be allocated to South Tarawa, whilst the remaining half will be allocated to the remaining three/four strata (depending on whether the Line Islands are included). The allocation for each of the rural strata was to simply divide the required sample across each, proportional to the estimated number of households as recorded in the 2005 Census. This sample allocation can be seen in the table below.

Allocation of sample to stratum – with Line Islands

<b>Stratum</b>	<b># Households</b>	<b>Sample Size</b>
North Gilbert	3046	299
Central Gilbert	1420	139
South Gilbert	2941	288
Line/Phoenix	1347	132
<b>TOTAL</b>	<b>8754</b>	<b>858</b>

Allocation of sample to stratum – without Line Islands

<b>Stratum</b>	<b># Households</b>	<b>Sample Size</b>
North Gilbert	3046	353
Central Gilbert	1420	164
South Gilbert	2941	341
<b>TOTAL</b>	<b>7407</b>	<b>858</b>

### **3. Sample Selection**

#### **3.1 Options Considered**

At the time this report was produced, a final decision was yet to be made on the sample design strategy. The main issue yet to be resolved relates to the coverage of the outer islands. Two questions remain unanswered:

- a) Should the Line Islands be included in the scope of the survey and thus make the coverage for outer islands more comprehensive
- b) How many outer islands in the Gilbert Islands should be included to appropriately cover this island group

Both questions will be determined by examining both cost constraints and accuracy requirements.

To address the issue, three sample options were considered during the production of this report:

- 1) Include the Line Islands and six outer islands from the Gilbert Islands
- 2) Include only six outer islands from the Gilbert Islands
- 3) Include only four outer islands from the Gilbert Islands

Initial investigations found that the difference in costs between options 2 and 3 was very minimal. As a result, option 3 was dropped from consideration given the more representative nature of option 2. Option 3 was still covered in the budget discussions in section 7 of this report.

The sample strategies for each of these options are discussed in detail below. It is worth noting that regardless of which option is adopted, the strategy for South Tarawa will remain the same.

#### **3.2 South Tarawa**

##### *Selection of Households*

For South Tarawa, a two-stage approach was adopted for the selection of households. The two stages will involve:

Stage 1: Selection of EAs using Probability Proportional to Size (PPS) sampling, where the size measure is the number of households in the EA.

Stage 2: Selection of a fixed number of households using systematic sampling, with the fixed number of households being 20 per selected EA.

The selection of EAs can be found in Appendix 3 of this report.

#### Selection of Persons

Once the sample of households has been selected, every woman aged 15-49 will be asked to complete the woman's questionnaire, in all 20 households selected in each selected EA. For the men's survey, only those men aged 15-49 in every second household will be asked to complete the men's questionnaire. As such, only 10 households per selected EA will be involved in the men's component of the survey.

### **3.3 Outer Islands**

For the outer islands a three-stage approach was adopted for the selection of households, which was adopted for each of the two options discussed above. The three stages involved:

Stage 1: Selection of islands using Probability Proportional to Size (PPS) sampling, where the size measure is the number of households on the island.

Stage 2: Selection of villages using PPS sampling where once again the size measure is the number of households in the village.

Stage 3: Selection of a fixed number of households using systematic sampling, with the fixed number of households being 20 per village.

The reason for adopting villages as the second stage selection unit was because households are clustered by village more in the outer islands and it would therefore simplify the collection of data in the field. This wasn't an important consideration for South Tarawa, and as such EAs were selected because they were more uniform in size.

#### Selection of islands

The tables for selecting the islands within each of the outer island strata, for each of the three options, can be found in Appendix 4 at the end of this report. The final islands selected in the sample were:

Option 1 – Include Line Islands and six Gilbert Islands

#### North Gilbert

North Tarawa  
Butaritari

#### South Gilbert

North Tabiteuea  
Nikunau

#### Central Gilbert

Abemama  
Maiana

#### Line Islands

Kiritimati



## Option 2 – Include six Gilbert Islands only

### North Gilbert

North Tarawa  
Butaritari

### South Gilbert

North Tabiteuea  
Nikunau

### Central Gilbert

Abemama  
Maiana

## Selection of villages

The tables for selecting the villages within each of the selected islands can be found in Appendix 5 at the end of this report. Before the villages were selected, a further scope reduction took place to avoid selecting villages which were extremely difficult to reach. As it turned out only three villages in total were excluded from scope during this process under each of the three options.

<u>Island</u>	<u>Village</u>
Butaritari	Bikaati
Abemama	Abatiku
Abemama	Biike

## Selection of Households

As discussed above there will be 20 households selected from each selected village, but due to the large nature of houses in some of the villages, when PPS sampling is adopted to select the villages, the skip may land on these villages more than once. This occurred on a few instances where a village was selected twice, three times, and once four times. For these villages, the number of houses selected in the survey will be the number of times that village was selected multiplied by 20, also selected using systematic sampling.

## Final sample allocation for rural areas

To make sure each selected island had a sample size which was divisible by 20, and thus keep the workloads even, the sample for the outer islands was allocated to each selected island proportional to the number of households in the island. This figure was then rounded to the nearest 20.

The results from this process for each of the three options can be seen in the tables below.

Option 1 – Include Line Islands and six outer islands from Gilbert Islands

Island	# Households	Sample Size (HHs)	Final Sample Size
NTarawa	867	181	180
Butaritari	561	117	120
Abemama	592	87	80
Maiana	354	52	60
NTabiteuea	573	182	180
Nikunau	335	106	100
Kiritimati	702	132	140
TOTAL		858	860

Option 2 – Include six outer islands from Gilbert Islands only

Island	# Households	Sample Size (HHs)	Final Sample Size
NTarawa	867	214	220
Butaritari	561	139	140
Abemama	592	103	100
Maiana	354	62	60
NTabiteuea	573	215	220
Nikunau	335	126	120
TOTAL		858	860

Final sample size for the rural sample was therefore:

Women's Survey: 860 HHs  
Men's Survey: 430 HHs

## **4. Fieldwork Teams**

The following section addresses issues associated with the fieldwork teams. It covers topics such as the number of teams required, the make-up of each team, the responsibility of team members, the activities of teams, and finally the process involved in selecting the teams.

### **4.1 Team members and responsibilities**

The current proposal is to have nine members in each team, comprising of the following;

#### **1 supervisor**

The supervisor will be responsible for overseeing all activities of the team on each island.

#### **4 female interviewers**

The female interviewer's primary task will be to conduct the face-to-face interviews with the females identified as being in scope of the survey.

#### **2 male interviewers**

The male interviewer's primary task will be to conduct the face-to-face interviews with the males identified as being in scope of the survey.

#### **1 editor**

The editor of each team will be responsible for checking through each questionnaire once it has been finished to ensure it has been filled in correctly.

### **4.2 Number of teams required**

The number of teams required for the fieldwork is very dependent on how much time in the field is available for the survey, as well as the make-up of the teams described above. The figures below are derived on the basis of allowing 12 weeks for field enumeration, and the above team dynamics.

#### **South Tarawa**

All up, 640 households will be selected in the Sth Tarawa sample, which means 32 EAs will be selected (20 households from each). The approximate time it would take a team to cover one EA is expected to be as follows:

Estimated number of female interview:  $2.21 * 20 = 45$  (rounded up)

Estimated number of male interviews:  $2.01 * 10 = 22$  (rounded up)

The female interview is expected to take nearly twice as long as the male interview (2 hrs compare to 1 hr) so despite the fact there is only half as many male interviewers, they should be able to complete their task well ahead of the females and complete the household questionnaire as well.

Now 45 female interviews \* 2 hours = 90 hours work. With 4 female interviewers, this equates to 22.5 hours work each – around 3 days. Given there will travel time between households, numerous callbacks, and the household listing exercise for each selected EA, it would be safe to assume there will be a weeks worth of work per selected EA for one team.

Given we have 32 EAs in total then two possibilities stand out for the number of teams:

- a) Have 4 teams enumerate 8 EAs each (8 wks)
- b) Have 3 teams enumerate 10 EAs for one team and 11 EAs for two teams (11 wks)

At this stage the plan is to have 3 teams for Sth Tarawa; 2 teams enumerating 11 EAs over 11 weeks, and one team enumerating 10 EAs over 10 weeks.

### Outer Islands

#### *Option 1 – Include Line Islands and select six islands from Gilbert Islands*

Using the same logic described above for Sth Tarawa, the required number of teams for the outer islands under option 1 will be 5:

- 1 team Nth Tarawa – 9 weeks
- 1 team Nth Tabiteuea – 9 weeks
- 1 team Kiritimati – 7 weeks
- 1 team Butaritari & Maiana – 9 weeks
- 1 team Abemama & Nikunau – 9 weeks

#### *Option 2 – Include six islands from Gilbert Islands only*

Using the same logic described above for Sth Tarawa, the required number of teams for the outer islands under option 1 will be 4:

- 1 team Nth Tarawa – 11 weeks
- 1 team Nth Tabiteuea – 11 weeks
- 1 team Butaritari & Maiana – 10 weeks
- 1 team Abemama & Nikunau – 11 weeks

### **4.3 Selection of the teams**

The proposal at this stage is to select all the fieldwork teams in South Tarawa. The concern with this proposal is that most Island Councils will prefer that the staff involved in the field activities for their island, come from their island, so they reap the benefit of the employment opportunity.

As a method to reduce this concern, two members of the project team will visit the selected islands to meet with the Island Councils and explain the need for having outside interviewers, due to the confidential nature of the survey in question. It is hoped that Island Councils will be prepared to accept this proposal and allow the survey to be conducted on their island.

The procedure of selecting the fieldwork teams will lie mostly with the in-country manager of the project. They will oversee the selection of the field supervisors, field interviewers and field editors.

### **4.4 Team activities**

At the completion of an intensive training programme, the field teams will be responsible for numerous activities during the fieldwork. The major of these include the following:

- 1) Travel to the selected islands with all survey materials, including instruction manuals, questionnaires and any other field equipment required.
- 2) Undertake a listing of households on their selected islands which are readily accessible by motor bike.
- 3) Select a random sample of households from their household list, using a systematic sampling technique
- 4) Visit the selected households, undertake the household questionnaire and identify which women and men aged 15-49 are present in the household and required for interview
- 5) Undertake a face-to-face interview with the in-scope females of all selected households and the in-scope males of every second selected household
- 6) Check that the questionnaires have been completed correctly, and are stored safely for their return to South Tarawa
- 7) Return to South Tarawa, bringing **all** survey materials as well

One of the most important activities for the team is to ensure the field work takes place in a very confidential manner, and that **all** forms, whether completed or not, are returned to the National Statistics Office in South Tarawa in a timely manner.

## **5. Timing of Activities**

The timing of broad survey activities are estimated to be as follows:

Questionnaire design	now	–	Sep 4
Recruitment of field staff	Jul 13	–	Aug 7
Training of field staff	Aug 17	–	Sep 18
Conduct of field work	Sep 21	–	Dec 11
Data entry/editing	Oct 5	–	Jan 29
Report Production	Mar 1	–	Oct 29

More detail can be found in Appendix 1 for the timing of additional activities.

This timetable is extremely tight for pre-enumeration activities, and will only be met if numerous tasks are addressed immediately. Any delays in work on:

- 1) Finalising the questionnaire
- 2) Recruitment of project manager
- 3) Recruitment of other field staff
- 4) Meetings with island councils

will result in the fieldwork being delayed, which will have major implications on the overall survey programme.

## **6. Other Issues to Address**

This section of the report addresses any other issues which need to be addressed for the successful completion of the fieldwork

### **6.1 Transportation of Field Staff**

Although many of the islands selected in the survey are small with respect to their populations, they are still large enough to generate transportation needs for the field teams.

In many of the selected islands it will not be possible to rent a large vehicle such as a car to provide the required transportation of field staff during both the listing exercise and enumeration. If a car/truck was available, it would be more likely that it could be used for short term trips from one end of the island to the other – such trips can cost \$50-\$60 one way. As an alternative to this approach, a more economical option will be to rent 4 motor bikes on each selected island for the duration of the fieldwork (including household listing). The cost of hiring motor bikes is anticipated to be around \$20/day and this would not cover fuel.

For South Tarawa, where 4 teams will be in operation, the most economical manner of transportation for field staff will be through the bus system.

### **6.2 Island Council Refusals**

There is a slight chance that a selected island's Island Council may refuse to participate in the survey. Two such reasons could include:

- a) The Island Council objecting to field staff from outside of their island undertaking the enumeration
- b) The Island Council objecting to a survey of such a sensitive nature being conducted on their island

Whilst every effort should be made to convince the Island Council to change their mind, it would be unwise to push the issue too far. Given only a sample of islands has been selected in the survey, a replacement island should be identified and enumerated instead.

It is hoped that any problem cases like this will be identified early on in the process when the in-country project team visit the selected islands to meet with Island Councils. Time will thus be available to make any necessary adjustments to the original sample.

To increase the likelihood of an island council agreeing to conduct the survey on their island, two members of the project team will meet with the island councils and explain

the purpose of the survey, and respond to any concerns they may have. To assist with this process it would be very worthwhile to draft up a letter to each island council member on each selected island, detailing the objectives of the survey and answering any anticipated questions they may have. It would be advisable to not include some of the more sensitive topics of the survey when addressing the objectives of the survey in this letter.

### **6.3 Communication between Field Staff and Project Manager**

For the successful completion of any survey in the field, strong communication at all levels needs to occur. Given the smallish geographical size of all selected islands, it is envisaged that supervisors will be in contact with their teams on a daily basis. The opportunity for supervisors being able to provide the necessary support and assistance to their team members should therefore be available.

Of more concern is the opportunity for field teams (in particular the supervisors) being able to communicate regularly and effectively with the project team manager (based in South Tarawa) if more significant problems occur in the field, which require a higher level of assistance. Every effort should be made to ensure a suitable communication procedure is put in place between field teams and the project manager to ensure all problems are addressed in a timely and effective manner. An allowance will be given to supervisors so they can contact the project manager on a regular basis to provide an update of survey progress and address any problems they may encounter.

### **6.4 The Availability of Laptops**

The ability to effectively carry out the household listing exercise, and sample selection of households, will be simplified if a laptop per team was made available. The justification for this comment is that whilst it will be easier to produce a more comprehensive listing of households if they are stored on the computer, the real gains will come when carrying out the sample selections.

Nearly all islands will require a complex sample fraction to be run through the list in order to select the systematic sample of households in each selected village. The task will be greatly simplified if the teams have the assistance of a laptop computer for the duration of the fieldwork especially when the listing and sample selection activities take place.

Given they won't be required for South and North Tarawa (this can be done from the Statistics Office), only 3 laptops will be required for this work. One for the team covering North Tabiteuea, one for the team covering Butaritari and Maiana, and one for the team covering Abemama and Nikunau.



Whilst it is not being recommended that the project buy 3 new laptops to undertake the exercise, it would be worthwhile for the project team to consider lending the laptops from other Government Departments for the field work period to carry out this task.

### **6.5 Production of Maps for Household Listing**

The production of sound up-to-date lists by the field teams when they first visit the selected islands will be crucial to selecting a representative sample from each selected island. In order to assist with this exercise Maps will be provided to teams indicating the areas they need to cover. One of these maps will consist of the entire island, and will mark which villages/areas the field team need to cover during the listing exercise (see section 6.6). The field teams will need to divide the accessible part of the island into equal sections and list the households within each section. Care needs to be taken to make sure no households are excluded, as well as households aren't double counted.

To further assist with this exercise, it may be possible to provide teams with a list of households of their respective islands from the 2005 Census. This will provide a guide to teams as to how many households they should expect in each village. Permission from the National Statistics Office will need to be given for this to occur.

### **6.6 Reducing the scope on selected islands**

As alluded to above, it is proposed that the listing exercise, and thus the sample selection, take place on accessible parts of the selected islands only. The term accessible is defined as any part of the island which can be easily reached by motor bikes, or for which a quick walk at low tide will see some additional villages reached.

The main reason for adopting this approach is that the team supervisor, and editor need to be in close proximity of the enumerators, in case any assistance is required. Teams will also be required to reside in the one location each night, so transportation to difficult to reach areas may not be possible each day.

Once again, this reduction in scope should not have a significant impact on final results, as characteristics of villages, with respect to the subject matter being collected, should not differ too much within an island.

## **7. Survey Budget**

In order to best determine what strategy to adopt for the survey, budgets were prepared for each of the three sample designs discussed above:

- Coverage of Sth Tarawa & 7 Outer Islands (Including Kiritimati)
- Coverage of Sth Tarawa & 6 Outer Islands (Excluding Kiritimati)
- Coverage of Sth Tarawa & 4 Outer Islands (Excluding Kiritimati)

The table below summarizes the expected costs for the survey under the three design options. The “Full Sample” option refers to covering Sth Tarawa & 7 Outer Islands (including Kiritimati).

<b>Cost Item</b>	<b>Full Sample</b>	<b>6 Outer Islands</b>		<b>4 Outer Islands</b>	
	<b>Cost</b>	<b>Cost</b>	<b>Diff</b>	<b>Cost</b>	<b>Diff</b>
STAFFING COSTS	\$85,905	\$82,880	\$3,025	\$82,880	\$3,025
ISLAND COUNCIL MEETINGS	\$12,870	\$8,570	\$4,300	\$5,870	\$7,000
RECRUITMENT COSTS	\$180	\$180	\$0	\$180	\$0
TRAINING COSTS	\$33,120	\$29,890	\$3,230	\$29,890	\$3,230
FIELD COSTS	\$210,540	\$158,253	\$52,287	\$147,978	\$62,562
PUBLICITY	\$2,340	\$2,340	\$0	\$2,340	\$0
PRINTING COSTS	\$54,060	\$54,060	\$0	\$54,060	\$0
EQUIPMENT	\$9,600	\$9,800	-\$200	\$9,600	\$0
FREIGHT FOR MATERIALS	\$7,200	\$3,600	\$3,600	\$3,200	\$4,000
CONSULTATION VISITS	\$108,245	\$108,245	\$0	\$108,245	\$0
<b>TOTAL COSTS</b>	<b>\$524,060</b>	<b>\$457,818</b>	<b>\$66,242</b>	<b>\$444,243</b>	<b>\$79,817</b>
Contingency	\$52,406	\$45,782	\$6,624	\$44,424	\$7,982
<b>TOTAL COSTS WITH CONTINGENCY</b>	<b>\$576,466</b>	<b>\$503,600</b>	<b>\$72,866</b>	<b>\$488,667</b>	<b>\$87,799</b>

As can be seen from the table above, removing Kiritimati Island from the survey will result in significant savings for the survey, however, removing a further two outer islands resulted in minimal additional savings.

A more detailed description of each budget item can be found in Appendix 2.

### **7.1 Budget Assumptions**

The main assumptions made during the budget process, impacting on the final figures above are summarized as follows:

- All field staff (despite their role) involved in the survey will be paid at the Kiribati Government level of a L14, which currently receive \$121 per week for the field work, and receive \$40 allowance per week for the training.
- Data entry staff will be paid at L18 level, which currently receive \$84 per week
- The project supervisor will be employed for 5 months, and whilst their level has yet to be determined, it will be somewhere in the vicinity of \$200 per week.

- Travel costs to outer islands of both the project management team to visit island councils, and the field staff for the field work, are assuming travel by air (except North Tarawa). It may be possible to save some money in this area if travel can be arranged via the Super Cat.
- Subsistence allowance will be paid for all travel at \$45 day. This fee should be absorbed entirely by the island communities, hopefully assisting the process of convincing island councils to be involved in the survey.
- Island council members will be paid \$50 each for attending the meeting with project managers.
- Transportation on each island will be by motor bike. To facilitate this, each team will need 4 motor bikes each (1 bike for 2 people) at an anticipated hire cost of \$20/day. Fuel expenses will be on top of this.
- An additional four personal computers will be required by the National Statistics Office to carry out the data entry exercise.

## **Appendix 1 – Timetable of Activities**

**2009 KIRIBATI DEMOGRAPHIC HEALTH SURVEY - Pre-enumeration & Enumeration Activities**

Activity	2009																													
	Jun				Jul				Aug				Sep				Oct				Nov				Dec					
	5	12	19	26	3	10	17	24	31	7	14	21	28	4	11	18	25	2	9	16	23	30	6	13	20	27	4	11	18	25
1. Overall Planning																														
Survey Planning																														
Development of Timetable																														
Sample Design & Budgeting																														
Recruitment of Project Manager																														
Publicity																														
2. Island Council Visits																														
Undertake preparations for meetings																														
Organise logistic for meetings																														
Undertake island council visit trip																														
3. Questionnaires and Manual Preparation																														
Initial Questionnaire Consultation																														
Arrange Questionnaire Translation																														
Update Questionnaire																														
Translate Questionnaire																														
Print Qs and manuals for pretest training																														
Fine tune Qs and manuals																														
Printing final Qs and manuals																														
4. Developing of Data Processing System																														
Set up system																														
Training of data entry personal																														
5. Recruitment of Field Workers																														
Prepare ads and advertise																														
Undertake selection process																														
Advise fieldworkers of training																														
6. Pretest Training																														
Organise logistics for training																														
Training of s'visors and editors																														
Fieldwork practice																														
7. Main Training																														
Organise logistics for training																														
Training of all field workers																														
Field work practice																														
8. Fieldwork & Main Enumeration																														
Delpoyment of field staff to outer islands																														
Household Listing of selected areas																														
Conduct of fieldwork																														
Deliver all questionnaires back to NSO																														

**2009 KIRIBATI DEMOGRAPHIC HEALTH SURVEY - Post-enumeration activities**[illegible]

## Appendix 2 – Budget Estimates

### Option 1 – Include Line Islands and six outer islands from Gilbert Islands

Cost Item	Factor 1		Factor 2		Factor 3		Item total (\$A)	Group total (\$A)
	#	Description	#	Description	#	Description		
<b>STAFFING COSTS</b>								
Project Manager	22 Weeks		\$200	L4 Wage	1	Staff	\$4,400	
							<b>\$4,400</b>	
<b>Field Staff Wages</b>								
<b>Sth Tarawa</b>								
Supervisor - field wage	10 Weeks		\$121	L14 Wage	1	Staff	\$1,210	
Supervisor - field wage	11 Weeks		\$121	L14 Wage	2	Staff	\$2,662	
Interviewer(f) - field wage	10 Weeks		\$121	L14 Wage	4	Staff	\$4,840	
Interviewer(f) - field wage	11 Weeks		\$121	L14 Wage	8	Staff	\$10,648	
Interviewer(m) - field wage	10 Weeks		\$121	L14 Wage	2	Staff	\$2,420	
Interviewer(m) - field wage	11 Weeks		\$121	L14 Wage	4	Staff	\$5,324	
Editor - field wage	10 Weeks		\$121	L14 Wage	1	Staff	\$1,210	
Editor - field wage	11 Weeks		\$121	L14 Wage	2	Staff	\$2,662	
<b>Butaritari</b>								
Supervisor - field wage	6 Weeks		\$121	L14 Wage	1	Staff	\$726	
Interviewer(f) - field wage	6 Weeks		\$121	L14 Wage	4	Staff	\$2,904	
Interviewer(m) - field wage	6 Weeks		\$121	L14 Wage	2	Staff	\$1,452	
Editor - field wage	6 Weeks		\$121	L14 Wage	1	Staff	\$726	
<b>Nth Tarawa</b>								
Supervisor - field wage	9 Weeks		\$121	L14 Wage	1	Staff	\$1,089	
Interviewer(f) - field wage	9 Weeks		\$121	L14 Wage	4	Staff	\$4,356	
Interviewer(m) - field wage	9 Weeks		\$121	L14 Wage	2	Staff	\$2,178	
Editor - field wage	9 Weeks		\$121	L14 Wage	1	Staff	\$1,089	
<b>Maiana</b>								
Supervisor - field wage	3 Weeks		\$121	L14 Wage	1	Staff	\$363	
Interviewer(f) - field wage	3 Weeks		\$121	L14 Wage	4	Staff	\$1,452	
Interviewer(m) - field wage	3 Weeks		\$121	L14 Wage	2	Staff	\$726	
Editor - field wage	3 Weeks		\$121	L14 Wage	1	Staff	\$363	
<b>Abemama</b>								
Supervisor - field wage	4 Weeks		\$121	L14 Wage	1	Staff	\$484	
Interviewer(f) - field wage	4 Weeks		\$121	L14 Wage	4	Staff	\$1,936	
Interviewer(m) - field wage	4 Weeks		\$121	L14 Wage	2	Staff	\$968	
Nurse - field wage	4 Weeks		\$121	L14 Wage	1	Staff	\$484	
Editor - field wage	4 Weeks		\$121	L14 Wage	1	Staff	\$484	
<b>Nikunau</b>								
Supervisor - field wage	5 Weeks		\$121	L14 Wage	1	Staff	\$605	
Interviewer(f) - field wage	5 Weeks		\$121	L14 Wage	4	Staff	\$2,420	
Interviewer(m) - field wage	5 Weeks		\$121	L14 Wage	2	Staff	\$1,210	
Nurse - field wage	5 Weeks		\$121	L14 Wage	1	Staff	\$605	
Editor - field wage	5 Weeks		\$121	L14 Wage	1	Staff	\$605	
<b>North Tabiteuea</b>								
Supervisor - field wage	9 Weeks		\$121	L14 Wage	1	Staff	\$1,089	
Interviewer(f) - field wage	9 Weeks		\$121	L14 Wage	4	Staff	\$4,356	
Interviewer(m) - field wage	9 Weeks		\$121	L14 Wage	2	Staff	\$2,178	
Nurse - field wage	9 Weeks		\$121	L14 Wage	1	Staff	\$1,089	
Editor - field wage	9 Weeks		\$121	L14 Wage	1	Staff	\$1,089	
<b>Kiritimati</b>								
Supervisor - field wage	7 Weeks		\$121	L14 Wage	1	Staff	\$847	
Interviewer(f) - field wage	7 Weeks		\$121	L14 Wage	4	Staff	\$3,388	
Interviewer(m) - field wage	7 Weeks		\$121	L14 Wage	2	Staff	\$1,694	
Nurse - field wage	7 Weeks		\$121	L14 Wage	1	Staff	\$847	
Editor - field wage	7 Weeks		\$121	L14 Wage	1	Staff	\$847	
							<b>\$75,625</b>	
<b>Data Entry</b>								
Data Entry Staff	10 Weeks		\$84	L18 Wage	7	Staff	\$5,880	
							<b>\$5,880</b>	<b>\$85,905</b>

Cost Item	Factor 1		Factor 2		Factor 3		Item total (\$A)	Group total (\$A)
	#	Description	#	Description	#	Description		
ISLAND COUNCIL MEETINGS								
Travel to Outer Islands								
Butaritari	1	Return Trip	\$160	Flight Cost	2	Staff	\$320	
Nth Tarawa	1	Return Trip	\$20	Ferry Cost	2	Staff	\$40	
Maiana	1	Return Trip	\$100	Flight Cost	2	Staff	\$200	
Abemama	1	Return Trip	\$130	Flight Cost	2	Staff	\$260	
Nikunau	1	Return Trip	\$300	Flight Cost	2	Staff	\$600	
North Tabiteuea	1	Return Trip	\$230	Flight Cost	2	Staff	\$460	
Kiritimati	1	Return Trip	\$2,500	Flight Cost	1	Staff	\$2,500	
							\$4,380	
Subsistence Allowance								
Butaritari	3	Days	\$45	Day	2	Staff	\$270	
Nth Tarawa	1	Day	\$45	Day	2	Staff	\$90	
Maiana	3	Days	\$45	Day	2	Staff	\$270	
Abemama	3	Days	\$45	Day	2	Staff	\$270	
Nikunau	3	Days	\$45	Day	2	Staff	\$270	
North Tabiteuea	3	Days	\$45	Day	2	Staff	\$270	
Kiritimati	7	Days	\$150	Day	1	Staff	\$1,050	
							\$2,490	
Island Council Meetings								
Meetings combined	15	IC Members	\$50	Meeting Fee	8	Islands	\$6,000	
							\$6,000	\$12,870
RECRUITMENT COSTS								
Advertisements - Radio	9	Advertisements	\$20	Advertisement	1		\$180	
							\$180	\$180
TRAINING COSTS								
Pre-Test Training								
Training Allowance	2	Weeks	\$40	Week	22	Participants	\$1,760	
Venue	10	Days	\$150	Day	1	Venue	\$1,500	
Transport	10	Days	\$3	Day	22	Participants	\$660	
Refreshments	10	Days	\$20	Day	25	Participants	\$5,000	
Materials	1		\$10	Person	25	Persons	\$250	
							\$9,170	
Main Training								
Training Allowance	2	Week	\$40	Week	70	Staff	\$5,600	
Venue	5	Days	\$150	Day	1	Venue	\$750	
Transport	10	Days	\$3	Day	70	Staff	\$2,100	
Refreshments	10	Days	\$20	Day	74	Staff	\$14,800	
Materials	1		\$10	Person	70	Staff	\$700	
							\$23,950	\$33,120
FIELD COSTS								
Travel to Outer Islands								
Butaritari	1	Return Trip	\$160	Flight Cost	8	Staff	\$1,280	
Nth Tarawa	1	Return Trip	\$20	Ferry Cost	8	Staff	\$160	
Maiana	1	Return Trip	\$100	Flight Cost	8	Staff	\$800	
Abemama	1	Return Trip	\$130	Flight Cost	8	Staff	\$1,040	
Nikunau	1	Return Trip	\$300	Flight Cost	8	Staff	\$2,400	
North Tabiteuea	1	Return Trip	\$230	Flight Cost	8	Staff	\$1,840	
Kiritimati	1	Return Trip	\$2,500	Flight Cost	8	Staff	\$20,000	
							\$27,520	
Travel within Selected Islands								
Sth Tarawa - Bus Fare	77	Days	\$3	Day	16	Field Staff	\$3,696	
- Bus Fare	70	Days	\$3	Day	8	Field Staff	\$1,680	
Butaritari - Motor Bike Hire	42	Days	\$20	Day	4	Bikes	\$3,360	
- Fuel	42	Days	\$3	Day	4	Bikes	\$504	
Nth Tarawa - Motor Bike Hire	63	Days	\$20	Day	4	Bikes	\$5,040	
- Fuel	63	Days	\$3	Day	4	Bikes	\$756	
Maiana - Motor Bike Hire	21	Days	\$20	Day	4	Bikes	\$1,680	
- Fuel	21	Days	\$3	Day	4	Bikes	\$252	
Abemama - Motor Bike Hire	28	Days	\$20	Day	4	Bikes	\$2,240	
- Fuel	28	Days	\$3	Day	4	Bikes	\$336	
Nikunau - Motor Bike Hire	35	Days	\$20	Day	4	Bikes	\$2,800	
- Fuel	35	Days	\$3	Day	4	Bikes	\$420	
North Tabiteuea - Motor Bike Hire	63	Days	\$20	Day	4	Bikes	\$5,040	
- Fuel	63	Days	\$3	Day	4	Bikes	\$756	
Kiritimati - Car Hire	49	Days	\$50	Day	1	Car	\$2,450	
- Fuel	49	Days	\$20	Day	1	Car	\$980	
							\$31,990	
Subsistence Allowance								
Butaritari	42	Days	\$45	Day	8	Staff	\$15,120	
Nth Tarawa	63	Days	\$45	Day	8	Staff	\$22,680	
Maiana	21	Days	\$45	Day	8	Staff	\$7,560	
Abemama	28	Days	\$45	Day	8	Staff	\$10,080	
Nikunau	35	Days	\$45	Day	8	Staff	\$12,600	
North Tabiteuea	63	Days	\$45	Day	8	Staff	\$22,680	
Kiritimati	49	Days	\$150	Day	8	Staff	\$58,800	
							\$149,520	
Communication Costs								
Butaritari	6	Weeks	\$50	Week	1	Set of calls	\$300	
Nth Tarawa	9	Weeks	\$10	Week	1	Boat fares	\$90	
Maiana	3	Weeks	\$50	Week	1	Set of calls	\$150	
Abemama	4	Weeks	\$50	Week	1	Set of calls	\$200	
Nikunau	5	Weeks	\$50	Week	1	Set of calls	\$250	
North Tabiteuea	9	Weeks	\$50	Week	1	Set of calls	\$450	
Kiritimati	7	Weeks	\$10	Week	1	Internet	\$70	
							\$1,510	\$210,540





## Option 2 – Include six outer islands from Gilbert Islands only

Cost Item	Factor 1		Factor 2		Factor 3		Item total (\$A)	Group total (\$A)
	#	Description	#	Description	#	Description		
<b>STAFFING COSTS</b>								
Project Manager	22 Weeks		\$200	L4 Wage	1	Staff	\$4,400	
							<b>\$4,400</b>	
<b>Field Staff Wages</b>								
Sth Tarawa								
Supervisor - field wage	10 Weeks		\$121	L14 Wage	1	Staff	\$1,210	
Supervisor - field wage	11 Weeks		\$121	L14 Wage	2	Staff	\$2,662	
Interviewer(f) - field wage	10 Weeks		\$121	L14 Wage	4	Staff	\$4,840	
Interviewer(f) - field wage	11 Weeks		\$121	L14 Wage	8	Staff	\$10,648	
Interviewer(m) - field wage	10 Weeks		\$121	L14 Wage	2	Staff	\$2,420	
Interviewer(m) - field wage	11 Weeks		\$121	L14 Wage	4	Staff	\$5,324	
Editor - field wage	10 Weeks		\$121	L14 Wage	1	Staff	\$1,210	
Editor - field wage	11 Weeks		\$121	L14 Wage	2	Staff	\$2,662	
Butaritari								
Supervisor - field wage	7 Weeks		\$121	L14 Wage	1	Staff	\$847	
Interviewer(f) - field wage	7 Weeks		\$121	L14 Wage	4	Staff	\$3,388	
Interviewer(m) - field wage	7 Weeks		\$121	L14 Wage	2	Staff	\$1,694	
Editor - field wage	7 Weeks		\$121	L14 Wage	1	Staff	\$847	
Nth Tarawa								
Supervisor - field wage	11 Weeks		\$121	L14 Wage	1	Staff	\$1,331	
Interviewer(f) - field wage	11 Weeks		\$121	L14 Wage	4	Staff	\$5,324	
Interviewer(m) - field wage	11 Weeks		\$121	L14 Wage	2	Staff	\$2,662	
Editor - field wage	11 Weeks		\$121	L14 Wage	1	Staff	\$1,331	
Maiana								
Supervisor - field wage	3 Weeks		\$121	L14 Wage	1	Staff	\$363	
Interviewer(f) - field wage	3 Weeks		\$121	L14 Wage	4	Staff	\$1,452	
Interviewer(m) - field wage	3 Weeks		\$121	L14 Wage	2	Staff	\$726	
Editor - field wage	3 Weeks		\$121	L14 Wage	1	Staff	\$363	
Abemama								
Supervisor - field wage	5 Weeks		\$121	L14 Wage	1	Staff	\$605	
Interviewer(f) - field wage	5 Weeks		\$121	L14 Wage	4	Staff	\$2,420	
Interviewer(m) - field wage	5 Weeks		\$121	L14 Wage	2	Staff	\$1,210	
Editor - field wage	5 Weeks		\$121	L14 Wage	1	Staff	\$605	
Nikunau								
Supervisor - field wage	6 Weeks		\$121	L14 Wage	1	Staff	\$726	
Interviewer(f) - field wage	6 Weeks		\$121	L14 Wage	4	Staff	\$2,904	
Interviewer(m) - field wage	6 Weeks		\$121	L14 Wage	2	Staff	\$1,452	
Editor - field wage	6 Weeks		\$121	L14 Wage	1	Staff	\$726	
North Tabiteuea								
Supervisor - field wage	11 Weeks		\$121	L14 Wage	1	Staff	\$1,331	
Interviewer(f) - field wage	11 Weeks		\$121	L14 Wage	4	Staff	\$5,324	
Interviewer(m) - field wage	11 Weeks		\$121	L14 Wage	2	Staff	\$2,662	
Editor - field wage	11 Weeks		\$121	L14 Wage	1	Staff	\$1,331	
							<b>\$72,600</b>	
<b>Data Entry</b>								
Data Entry Staff	10 Weeks		\$84	L18 Wage	7	Staff	\$5,880	
							<b>\$5,880</b>	<b>\$82,880</b>

Cost Item	Factor 1		Factor 2		Factor 3		Item total (\$A)	Group total (\$A)
	#	Description	#	Description	#	Description		
ISLAND COUNCIL MEETINGS								
Travel to Outer Islands								
Butaritari	1	Return Trip	\$160	Flight Cost	2	Staff	\$320	
Nth Tarawa	1	Return Trip	\$20	Ferry Cost	2	Staff	\$40	
Maiana	1	Return Trip	\$100	Flight Cost	2	Staff	\$200	
Abemama	1	Return Trip	\$130	Flight Cost	2	Staff	\$260	
Nikunau	1	Return Trip	\$300	Flight Cost	2	Staff	\$600	
North Tabiteuea	1	Return Trip	\$230	Flight Cost	2	Staff	\$460	
							\$1,880	
Subsistence Allowance								
Butaritari	3	Days	\$45	Day	2	Staff	\$270	
Nth Tarawa	1	Day	\$45	Day	2	Staff	\$90	
Maiana	3	Days	\$45	Day	2	Staff	\$270	
Abemama	3	Days	\$45	Day	2	Staff	\$270	
Nikunau	3	Days	\$45	Day	2	Staff	\$270	
North Tabiteuea	3	Days	\$45	Day	2	Staff	\$270	
							\$1,440	
Island Council Meetings								
Meetings combined	15	IC Members	\$50	Meeting Fee	7	Islands	\$5,250	
							\$5,250	\$8,570
RECRUITMENT COSTS								
Advertisements - Radio								
	9	Advertisements	\$20	Advertisement	1		\$180	
							\$180	\$180
TRAINING COSTS								
Pre-Test Training								
Training Allowance	2	Weeks	\$40	Week	20	Participants	\$1,600	
Venue	10	Days	\$150	Day	1	Venue	\$1,500	
Transport	10	Days	\$3	Day	20	Participants	\$600	
Refreshments	10	Days	\$20	Day	23	Participants	\$4,600	
Materials	1		\$10	Person	20	Persons	\$200	
							\$8,500	
Main Training								
Training Allowance	2	Week	\$40	Week	62	Staff	\$4,960	
Venue	5	Days	\$150	Day	1	Venue	\$750	
Transport	10	Days	\$3	Day	62	Staff	\$1,860	
Refreshments	10	Days	\$20	Day	66	Staff	\$13,200	
Materials	1		\$10	Person	62	Staff	\$620	
							\$21,390	\$29,890
FIELD COSTS								
Travel to Outer Islands								
Butaritari	1	Return Trip	\$160	Flight Cost	8	Staff	\$1,280	
Nth Tarawa	1	Return Trip	\$20	Ferry Cost	8	Staff	\$160	
Maiana	1	Return Trip	\$100	Flight Cost	8	Staff	\$800	
Abemama	1	Return Trip	\$130	Flight Cost	8	Staff	\$1,040	
Nikunau	1	Return Trip	\$300	Flight Cost	8	Staff	\$2,400	
North Tabiteuea	1	Return Trip	\$230	Flight Cost	8	Staff	\$1,840	
							\$7,520	
Travel within Selected Islands								
Sth Tarawa - Bus Fare	56	Days	\$3	Day	36	Field Staff	\$6,048	
Butaritari - Motor Bike Hire	49	Days	\$20	Day	5	Bikes	\$4,900	
- Fuel	49	Days	\$3	Day	5	Bikes	\$735	
Nth Tarawa - Motor Bike Hire	77	Days	\$20	Day	5	Bikes	\$7,700	
- Fuel	77	Days	\$3	Day	5	Bikes	\$1,155	
Maiana - Motor Bike Hire	21	Days	\$20	Day	5	Bikes	\$2,100	
- Fuel	21	Days	\$3	Day	5	Bikes	\$315	
Abemama - Motor Bike Hire	35	Days	\$20	Day	5	Bikes	\$3,500	
- Fuel	35	Days	\$3	Day	5	Bikes	\$525	
Nikunau - Motor Bike Hire	42	Days	\$20	Day	5	Bikes	\$4,200	
- Fuel	42	Days	\$3	Day	5	Bikes	\$630	
North Tabiteuea - Motor Bike Hire	77	Days	\$20	Day	5	Bikes	\$7,700	
- Fuel	77	Days	\$3	Day	5	Bikes	\$1,155	
							\$40,663	
Subsistence Allowance								
Butaritari	49	Days	\$45	Day	8	Staff	\$17,640	
Nth Tarawa	77	Days	\$45	Day	8	Staff	\$27,720	
Maiana	21	Days	\$45	Day	8	Staff	\$7,560	
Abemama	35	Days	\$45	Day	8	Staff	\$12,600	
Nikunau	42	Days	\$45	Day	8	Staff	\$15,120	
North Tabiteuea	77	Days	\$45	Day	8	Staff	\$27,720	
							\$108,360	
Communication Costs								
Butaritari	7	Weeks	\$50	Week	1	Set of calls	\$350	
Nth Tarawa	11	Weeks	\$10	Week	1	Boat fares	\$110	
Maiana	3	Weeks	\$50	Week	1	Set of calls	\$150	
Abemama	5	Weeks	\$50	Week	1	Set of calls	\$250	
Nikunau	6	Weeks	\$50	Week	1	Set of calls	\$300	
North Tabiteuea	11	Weeks	\$50	Week	1	Set of calls	\$550	
							\$1,710	\$158,253



### Option 3 – Include four outer islands from Gilbert Islands only

Cost Item	Factor 1		Factor 2		Factor 3		Item total (\$A)	Group total (\$A)
	#	Description	#	Description	#	Description		
<b>STAFFING COSTS</b>								
Project Manager	22 Weeks		\$200	L4 Wage	1	Staff	\$4,400	
							<b>\$4,400</b>	
<b>Field Staff Wages</b>								
Sth Tarawa								
Supervisor - field wage	10 Weeks		\$121	L14 Wage	1	Staff	\$1,210	
Supervisor - field wage	11 Weeks		\$121	L14 Wage	2	Staff	\$2,662	
Interviewer(f) - field wage	10 Weeks		\$121	L14 Wage	4	Staff	\$4,840	
Interviewer(f) - field wage	11 Weeks		\$121	L14 Wage	8	Staff	\$10,648	
Interviewer(m) - field wage	10 Weeks		\$121	L14 Wage	2	Staff	\$2,420	
Interviewer(m) - field wage	11 Weeks		\$121	L14 Wage	4	Staff	\$5,324	
Editor - field wage	10 Weeks		\$121	L14 Wage	1	Staff	\$1,210	
Editor - field wage	11 Weeks		\$121	L14 Wage	2	Staff	\$2,662	
Butaritari								
Supervisor - field wage	10 Weeks		\$121	L14 Wage	1	Staff	\$1,210	
Interviewer(f) - field wage	10 Weeks		\$121	L14 Wage	4	Staff	\$4,840	
Interviewer(m) - field wage	10 Weeks		\$121	L14 Wage	2	Staff	\$2,420	
Editor - field wage	10 Weeks		\$121	L14 Wage	1	Staff	\$1,210	
Nth Tarawa								
Supervisor - field wage	8 Weeks		\$121	L14 Wage	2	Staff	\$1,936	
Interviewer(f) - field wage	8 Weeks		\$121	L14 Wage	8	Staff	\$7,744	
Interviewer(m) - field wage	8 Weeks		\$121	L14 Wage	4	Staff	\$3,872	
Editor - field wage	8 Weeks		\$121	L14 Wage	2	Staff	\$1,936	
Abemama								
Supervisor - field wage	11 Weeks		\$121	L14 Wage	1	Staff	\$1,331	
Interviewer(f) - field wage	11 Weeks		\$121	L14 Wage	4	Staff	\$5,324	
Interviewer(m) - field wage	11 Weeks		\$121	L14 Wage	2	Staff	\$2,662	
Editor - field wage	11 Weeks		\$121	L14 Wage	1	Staff	\$1,331	
Nikunau								
Supervisor - field wage	6 Weeks		\$121	L14 Wage	1	Staff	\$726	
Interviewer(f) - field wage	6 Weeks		\$121	L14 Wage	4	Staff	\$2,904	
Interviewer(m) - field wage	6 Weeks		\$121	L14 Wage	2	Staff	\$1,452	
Editor - field wage	6 Weeks		\$121	L14 Wage	1	Staff	\$726	
							<b>\$72,600</b>	
<b>Data Entry</b>								
Data Entry Staff	10 Weeks		\$84	L18 Wage	7	Staff	\$5,880	
							<b>\$5,880</b>	<b>\$82,880</b>
<b>ISLAND COUNCIL MEETINGS</b>								
Travel to Outer Islands								
Butaritari	1 Return Trip		\$160	Flight Cost	2	Staff	\$320	
Nth Tarawa	1 Return Trip		\$20	Ferry Cost	2	Staff	\$40	
Abemama	1 Return Trip		\$130	Flight Cost	2	Staff	\$260	
Nikunau	1 Return Trip		\$300	Flight Cost	2	Staff	\$600	
							<b>\$1,220</b>	
<b>Subsistence Allowance</b>								
Butaritari	3 Days		\$45	Day	2	Staff	\$270	
Nth Tarawa	1 Day		\$45	Day	2	Staff	\$90	
Abemama	3 Days		\$45	Day	2	Staff	\$270	
Nikunau	3 Days		\$45	Day	2	Staff	\$270	
							<b>\$900</b>	
<b>Island Council Meetings</b>								
Meetings combined	15 IC Members		\$50	Meeting Fee	5	Islands	\$3,750	
							<b>\$3,750</b>	<b>\$5,870</b>

Cost Item	Factor 1		Factor 2		Factor 3		Item total (\$A)	Group total (\$A)
	#	Description	#	Description	#	Description		
<b>RECRUITMENT COSTS</b>								
Advertisements - Radio	9	Advertisements	\$20	Advertisement	1		\$180	
							<b>\$180</b>	<b>\$180</b>
<b>TRAINING COSTS</b>								
<b>Pre-Test Training</b>								
Training Allowance	2	Weeks	\$40	Week	20	Participants	\$1,600	
Venue	10	Days	\$150	Day	1	Venue	\$1,500	
Transport	10	Days	\$3	Day	20	Participants	\$600	
Refreshments	10	Days	\$20	Day	23	Participants	\$4,600	
Materials	1		\$10	Person	20	Persons	\$200	
							<b>\$8,500</b>	
<b>Main Training</b>								
Training Allowance	2	Week	\$40	Week	62	Staff	\$4,960	
Venue	5	Days	\$150	Day	1	Venue	\$750	
Transport	10	Days	\$3	Day	62	Staff	\$1,860	
Refreshments	10	Days	\$20	Day	66	Staff	\$13,200	
Materials	1		\$10	Person	62	Staff	\$620	
							<b>\$21,390</b>	<b>\$29,890</b>
<b>FIELD COSTS</b>								
<b>Travel to Outer Islands</b>								
Butaritari	1	Return Trip	\$160	Flight Cost	8	Staff	\$1,280	
Nth Tarawa	1	Return Trip	\$20	Ferry Cost	16	Staff	\$320	
Abemama	1	Return Trip	\$130	Flight Cost	8	Staff	\$1,040	
Nikunau	1	Return Trip	\$300	Flight Cost	8	Staff	\$2,400	
							<b>\$5,040</b>	
<b>Travel within Selected Islands</b>								
Sth Tarawa - Bus Fare	77	Days	\$3	Day	16	Field Staff	\$3,696	
- Bus Fare	70	Days	\$3	Day	8	Field Staff	\$1,680	
Butaritari - Motor Bike Hire	70	Days	\$20	Day	4	Bikes	\$5,600	
- Fuel	70	Days	\$3	Day	4	Bikes	\$840	
Nth Tarawa - Motor Bike Hire	56	Days	\$20	Day	8	Bikes	\$8,960	
- Fuel	56	Days	\$3	Day	8	Bikes	\$1,344	
Abemama - Motor Bike Hire	77	Days	\$20	Day	4	Bikes	\$6,160	
- Fuel	77	Days	\$3	Day	4	Bikes	\$924	
Nikunau - Motor Bike Hire	42	Days	\$20	Day	4	Bikes	\$3,360	
- Fuel	42	Days	\$3	Day	4	Bikes	\$504	
							<b>\$33,068</b>	
<b>Subsistence Allowance</b>								
Butaritari	70	Days	\$45	Day	8	Staff	\$25,200	
Nth Tarawa	56	Days	\$45	Day	16	Staff	\$40,320	
Abemama	77	Days	\$45	Day	8	Staff	\$27,720	
Nikunau	42	Days	\$45	Day	8	Staff	\$15,120	
							<b>\$108,360</b>	
<b>Communication Costs</b>								
Butaritari	10	Weeks	\$50	Week	1	Set of calls	\$500	
Nth Tarawa	8	Weeks	\$10	Week	2	Boat fares	\$160	
Abemama	11	Weeks	\$50	Week	1	Set of calls	\$550	
Nikunau	6	Weeks	\$50	Week	1	Set of calls	\$300	
							<b>\$1,510</b>	<b>\$147,978</b>
<b>PUBLICITY</b>								
Radio Advertisements	1	Programme	\$150	Advertisement	6	Advertisements	\$900	
Newspapers - 1	1	Page	\$100	Advertisement	6	Advertisements	\$600	
- 2	1	Page	\$70	Advertisement	6	Advertisements	\$420	
- 3	1	Page	\$70	Advertisement	6	Advertisements	\$420	
							<b>\$2,340</b>	<b>\$2,340</b>

[illegible]

## Appendix 3 – Sth Tarawa Selections

Stratum	Island ID	Island Name	Village	Village Name	EA	Total Households	Cumm # Households	Selections
South Tarawa	07	STarawa	01	Tanaea	001	13	13	
South Tarawa	07	STarawa	02	Boniki	001	19	32	
South Tarawa	07	STarawa	02	Boniki	002	49	81	45
South Tarawa	07	STarawa	02	Boniki	003	66	147	
South Tarawa	07	STarawa	02	Boniki	004	59	206	
South Tarawa	07	STarawa	02	Boniki	005	50	256	209
South Tarawa	07	STarawa	02	Boniki	006	43	299	
South Tarawa	07	STarawa	03	Temwaiku	007	66	365	
South Tarawa	07	STarawa	03	Temwaiku	008	73	438	373
South Tarawa	07	STarawa	03	Temwaiku	009	33	471	
South Tarawa	07	STarawa	03	Temwaiku	010	22	493	
South Tarawa	07	STarawa	03	Temwaiku	011	50	543	537
South Tarawa	07	STarawa	03	Temwaiku	012	64	607	
South Tarawa	07	STarawa	04	Causeway	013	67	674	
South Tarawa	07	STarawa	04	Causeway	014	51	725	700
South Tarawa	07	STarawa	04	Causeway	015	52	777	
South Tarawa	07	STarawa	04	Causeway	016	21	798	
South Tarawa	07	STarawa	05	Bikenibeu	017	57	855	
South Tarawa	07	STarawa	05	Bikenibeu	018	23	878	864
South Tarawa	07	STarawa	05	Bikenibeu	019	47	925	
South Tarawa	07	STarawa	05	Bikenibeu	020	37	962	
South Tarawa	07	STarawa	05	Bikenibeu	021	47	1009	
South Tarawa	07	STarawa	05	Bikenibeu	022	80	1089	1028
South Tarawa	07	STarawa	05	Bikenibeu	023	33	1122	
South Tarawa	07	STarawa	05	Bikenibeu	024	23	1145	
South Tarawa	07	STarawa	05	Bikenibeu	025	52	1197	1192
South Tarawa	07	STarawa	05	Bikenibeu	026	37	1234	
South Tarawa	07	STarawa	05	Bikenibeu	027	20	1254	
South Tarawa	07	STarawa	05	Bikenibeu	028	63	1317	
South Tarawa	07	STarawa	05	Bikenibeu	029	35	1372	1356
South Tarawa	07	STarawa	05	Bikenibeu	030	67	1439	
South Tarawa	07	STarawa	05	Bikenibeu	031	32	1471	
South Tarawa	07	STarawa	05	Bikenibeu	032	32	1503	
South Tarawa	07	STarawa	05	Bikenibeu	033	81	1554	1520
South Tarawa	07	STarawa	06	Abarao	034	59	1613	
South Tarawa	07	STarawa	06	Abarao	035	51	1664	
South Tarawa	07	STarawa	07	Eita	036	65	1729	1684
South Tarawa	07	STarawa	07	Eita	037	59	1788	
South Tarawa	07	STarawa	07	Eita	038	53	1841	
South Tarawa	07	STarawa	07	Eita	039	63	1904	1848
South Tarawa	07	STarawa	07	Eita	040	73	1977	
South Tarawa	07	STarawa	08	Tangintebu	041	19	1996	
South Tarawa	07	STarawa	09	Taborio	042	68	2064	2012
South Tarawa	07	STarawa	09	Taborio	043	71	2135	
South Tarawa	07	STarawa	10	Ambo	044	65	2200	2176
South Tarawa	07	STarawa	10	Ambo	045	53	2253	
South Tarawa	07	STarawa	10	Ambo	046	50	2303	
South Tarawa	07	STarawa	10	Ambo	047	55	2358	2339
South Tarawa	07	STarawa	11	Banraeaba	048	53	2411	
South Tarawa	07	STarawa	11	Banraeaba	049	54	2465	
South Tarawa	07	STarawa	11	Banraeaba	050	64	2529	2503
South Tarawa	07	STarawa	11	Banraeaba	051	77	2606	
South Tarawa	07	STarawa	12	Antebuka	052	55	2661	
South Tarawa	07	STarawa	13	Teaoraereke	053	55	2716	2667
South Tarawa	07	STarawa	13	Teaoraereke	054	56	2772	
South Tarawa	07	STarawa	13	Teaoraereke	055	57	2829	
South Tarawa	07	STarawa	13	Teaoraereke	056	71	2900	2831
South Tarawa	07	STarawa	13	Teaoraereke	057	54	2954	
South Tarawa	07	STarawa	13	Teaoraereke	058	66	3020	2995
South Tarawa	07	STarawa	13	Teaoraereke	059	89	3109	
South Tarawa	07	STarawa	13	Teaoraereke	060	65	3174	3159
South Tarawa	07	STarawa	14	Nanikai	061	59	3233	
South Tarawa	07	STarawa	14	Nanikai	062	52	3285	
South Tarawa	07	STarawa	15	Bainiki	063	44	3329	3323
South Tarawa	07	STarawa	15	Bainiki	064	62	3391	
South Tarawa	07	STarawa	15	Bainiki	065	51	3442	
South Tarawa	07	STarawa	15	Bainiki	066	66	3508	3487
South Tarawa	07	STarawa	15	Bainiki	067	66	3574	
South Tarawa	07	STarawa	15	Bainiki	068	57	3631	
South Tarawa	07	STarawa	16	Betio	069	43	3674	3651
South Tarawa	07	STarawa	16	Betio	070	45	3719	
South Tarawa	07	STarawa	16	Betio	071	27	3746	
South Tarawa	07	STarawa	16	Betio	072	65	3811	
South Tarawa	07	STarawa	16	Betio	073	56	3867	3815
South Tarawa	07	STarawa	16	Betio	074	36	3903	
South Tarawa	07	STarawa	16	Betio	075	37	3940	
South Tarawa	07	STarawa	16	Betio	076	76	4016	3979
South Tarawa	07	STarawa	16	Betio	077	73	4089	
South Tarawa	07	STarawa	16	Betio	078	36	4125	
South Tarawa	07	STarawa	16	Betio	079	54	4179	4142
South Tarawa	07	STarawa	16	Betio	080	33	4212	
South Tarawa	07	STarawa	16	Betio	081	58	4270	
South Tarawa	07	STarawa	16	Betio	082	41	4311	4306
South Tarawa	07	STarawa	16	Betio	083	38	4349	
South Tarawa	07	STarawa	16	Betio	084	45	4394	
South Tarawa	07	STarawa	16	Betio	085	53	4447	
South Tarawa	07	STarawa	16	Betio	086	45	4492	4470
South Tarawa	07	STarawa	16	Betio	087	52	4544	
South Tarawa	07	STarawa	16	Betio	088	48	4592	
South Tarawa	07	STarawa	16	Betio	089	41	4633	
South Tarawa	07	STarawa	16	Betio	090	40	4673	4634
South Tarawa	07	STarawa	16	Betio	091	64	4737	
South Tarawa	07	STarawa	16	Betio	092	50	4787	
South Tarawa	07	STarawa	16	Betio	093	31	4818	4798
South Tarawa	07	STarawa	16	Betio	094	55	4873	
South Tarawa	07	STarawa	16	Betio	095	52	4925	
South Tarawa	07	STarawa	16	Betio	096	41	4966	4962
South Tarawa	07	STarawa	16	Betio	097	70	5036	
South Tarawa	07	STarawa	16	Betio	098	43	5079	
South Tarawa	07	STarawa	16	Betio	099	79	5158	5126
South Tarawa	07	STarawa	16	Betio	100	38	5196	
South Tarawa	07	STarawa	16	Betio	101	49	5245	

## Appendix 4 – Outer Island Selections

### Option 1 – Include Line Islands and six outer islands from Gilbert Islands

Stratum	Island	Households	Cum Hhlds	Selection
North Gilbert	NTarawa	867	867	491
North Gilbert	Abaiang	853	1720	
North Gilbert	Butaritari	561	2281	2014
North Gilbert	Marakei	437	2718	
North Gilbert	Makin	328	3046	

Skip	1523
RStart	491
Sel1	491
Sel2	2014

Stratum	Island	Households	Cum Hhlds	Selection
Central Gilbert	Abemama	592	592	187
Central Gilbert	Maiana	354	946	867
Central Gilbert	Aranuka	211	1157	
Central Gilbert	Kuria	202	1359	
Central Gilbert	Banaba	61	1420	

Skip	679.5
RStart	187
Sel1	187
Sel2	867

Stratum	Island	Households	Cum Hhlds	Selection
South Gilbert	NTabiteuea	573	573	221
South Gilbert	Nonouti	540	1113	
South Gilbert	Beru	462	1575	
South Gilbert	Nikunau	335	1910	1691
South Gilbert	Onotoa	332	2242	
South Gilbert	STabiteuea	262	2504	
South Gilbert	Arorae	241	2745	
South Gilbert	Tamana	196	2941	

Skip	1470.5
RStart	221
Sel1	221
Sel2	1691

Stratum	Island	Households	Cum Hhlds	Selection
Line/Phoenix	Kiritimati	702	702	523
Line/Phoenix	Tabuaeran	438	1140	
Line/Phoenix	Teeraina	198	1338	
Line/Phoenix	Kanton	9	1347	

RStart	523
Sel1	523



## **Option 2 – Include six outer islands from Gilbert Islands only**

Stratum	Island	Households	Cum Hhlds	Selection
North Gilbert	NTarawa	867	867	491
North Gilbert	Abaiang	853	1720	
North Gilbert	Butaritari	561	2281	2014
North Gilbert	Marakei	437	2718	
North Gilbert	Makin	328	3046	

Skip	1523
RStart	491
Sel1	491
Sel2	2014

Stratum	Island	Households	Cum Hhlds	Selection
Central Gilbert	Abemama	592	592	187
Central Gilbert	Maiana	354	946	867
Central Gilbert	Aranuka	211	1157	
Central Gilbert	Kuria	202	1359	
Central Gilbert	Banaba	61	1420	

Skip	679.5
RStart	187
Sel1	187
Sel2	867

Stratum	Island	Households	Cum Hhlds	Selection
South Gilbert	NTabiteuea	573	573	221
South Gilbert	Nonouti	540	1113	
South Gilbert	Beru	462	1575	
South Gilbert	Nikunau	335	1910	1691
South Gilbert	Onotoa	332	2242	
South Gilbert	STabiteuea	262	2504	
South Gilbert	Arorae	241	2745	
South Gilbert	Tamana	196	2941	

Skip	1470.5
RStart	221
Sel1	221
Sel2	1691

## Appendix 5 – Village Selections

### Option 1 – Include Line Islands and six outer islands from Gilbert Islands

#### Butaritari

Village	Households	Males (15-49)	Females (15-49)	Cumm Hholds	Selns
Kuuma	112	134	135	112	56
Keuea	35	52	48	147	143
Tanimainiku	39	46	57	186	
Tanimaiaiki	39	50	56	225	
Tabonuea	37	58	58	262	231
Antekana	27	40	29	289	
Taubukinmeang	50	52	61	339	318
Temanokunuea	64	83	92	403	
Onomaru	61	69	82	464	406
Ukiangang	61	74	69	525	493
Bikaati	36	63	48	561	

Sample Size	120
Cluster Size	20
Villages	6
Skip	87.5
Random Start	56
Sel1	56
Sel2	143
Sel3	231
Sel4	318
Sel5	406
Sel6	493

#### North Tarawa

Village	Households	Males (15-49)	Females (15-49)	Cumm Hholds	Selns
Buariki	101	168	145	101	43
Tearinibai	52	71	75	153	140
Nuatabu	32	50	45	185	
Tebwargarol	6	9	10	191	
Taratai	33	49	42	224	
Nooto	86	244	337	310	236
Abaokoro	47	56	78	357	332
Marenanuka	14	17	18	371	
Tabonibara	54	77	71	425	
Kainaba	35	60	55	460	429
Nabeina	69	98	92	529	525
Tabiteuea	63	93	105	592	
Abatao	65	95	104	657	621
Buota	210	329	359	867	718, 814

Sample Size	180
Cluster Size	20
Villages	9
Skip	96.3
Random Start	43
Sel1	43
Sel2	140
Sel3	236
Sel4	332
Sel5	429
Sel6	525
Sel7	621
Sel8	718
Sel9	814

#### Maiana

Village	Households	Males (15-49)	Females (15-49)	Cumm Hholds	Selns
Tebikera	17	18	15	17	
Tekaranga	22	27	24	39	
Tematantongo	29	37	39	68	
Aobike	19	22	23	87	76
Tebanga	46	61	63	133	
Temwangaua	24	26	24	157	
Toora	19	18	26	176	
Tebwangetua	24	28	30	200	194
Teitai	5	8	8	205	
Tebiauea	31	53	40	236	
Raweai	30	45	52	266	
Bubutei	88	116	111	354	312

Sample Size	60
Cluster Size	20
Villages	3
Skip	118.0
Random Start	76
Sel1	76
Sel2	194
Sel3	312

## Abemama

Village	Households	Males (15-49)	Females (15-49)	Cumm Hholds	Selns
Abetiku	34	42	38	0	
Tabiang	97	162	152	97	90
Tekatirirake	48	62	50	145	
Tanimainiku	55	55	62	200	
Kauma	0	87	84	200	
Baretoa	59	69	73	259	228
Tabontebike	52	73	77	311	
Kariatebike	32	33	39	343	
Bangotantekabaia	46	102	129	389	367
Tebanga	49	65	53	438	
Manoku	57	63	73	495	
Kabangaki	60	77	90	555	506
Biike	3	4	4	558	

Sample Size	80
Cluster Size	20
Villages	4
Skip	138.8
Random Start	90
Sel1	90
Sel2	228
Sel3	367
Sel4	506

## Nikunau

Village	Households	Males (15-49)	Females (15-49)	Cumm Hholds	Selns
Muribenua	46	51	54	46	40
Tabutoa	34	39	22	80	
Rungata	143	207	188	223	107, 174
Manriki	32	33	45	255	241
Nikumanu	65	65	63	320	308
Tabomatang	15	25	17	335	

Sample Size	100
Cluster Size	20
Villages	5
Skip	67.0
Random Start	40
Sel1	40
Sel2	107
Sel3	174
Sel4	241
Sel5	308

## North Tabiteuea

Village	Households	Males (15-49)	Females (15-49)	Cumm Hholds	Selns
Tekabwibwi	26	32	32	26	14
Tekaman	46	62	41	72	
Tanaeang	81	111	109	153	77, 141
Buota	60	82	65	213	205
Terikiai	44	67	54	257	
Eita	94	212	309	351	268, 332
Utiroa	103	131	127	454	396
Tauma	38	42	58	492	459
Kabuna	32	49	41	524	523
Tenatorua	19	27	36	543	
Bangai	8	7	13	551	
Aiwa	22	40	32	573	

Sample Size	180
Cluster Size	20
Villages	9
Skip	63.7
Random Start	14
Sel1	14
Sel2	77
Sel3	141
Sel4	205
Sel5	268
Sel6	332
Sel7	396
Sel8	459
Sel9	523

## Kiritimati

Village	Households	Males (15-49)	Females (15-49)	Cumm Hholds	Selns
London	266	520	467	266	32, 132, 232
Tabwakea	252	491	451	518	333, 433
Banana	151	316	265	669	533, 633
Poland	33	53	52	702	

Sample Size	140
Cluster Size	20
Villages	7
Skip	100.3
Random Start	32
Sel1	32
Sel2	132
Sel3	232
Sel4	333
Sel5	433
Sel6	533
Sel7	633

## Option 2 – Include six outer islands from Gilbert Islands only

### Butaritari

Village	Households	Males (15-49)	Females (15-49)	Cumm Hholds	Selns
Kuuma	112	134	135	112	56
Keuea	35	52	48	147	131
Tanimainiku	39	46	57	186	
Tanimaiki	39	50	56	225	206
Tabonuea	37	58	58	262	
Antekana	27	40	29	289	281
Taubukinmeang	50	52	61	339	
Temanoakunuea	64	83	92	403	356
Onomaru	61	69	82	464	431
Ukiangang	61	74	69	525	506
Bikaati	36	63	48	561	

Sample Size	140
Cluster Size	20
Villages	7
Skip	75
Random Start	56
Sel1	56
Sel2	131
Sel3	206
Sel4	281
Sel5	356
Sel6	431
Sel7	506

### North Tarawa

Village	Households	Males (15-49)	Females (15-49)	Cumm Hholds	Selns
Buariki	101	168	145	101	43
Tearinibai	52	71	75	153	122
Nuatabu	32	50	45	185	
Tebwangarol	6	9	10	191	
Taratai	33	49	42	224	201
Nooto	86	244	337	310	280
Abaokoro	47	56	78	357	
Marenanuka	14	17	18	371	359
Tabonibara	54	77	71	425	
Kainaba	35	60	55	460	438
Nabeina	69	98	92	529	516
Tabiteuea	63	93	105	592	
Abatao	65	95	104	657	595
Buota	210	329	359	867	674, 753, 832

Sample Size	220
Cluster Size	20
Villages	11
Skip	78.8
Random Start	43
Sel1	43
Sel2	122
Sel3	201
Sel4	280
Sel5	359
Sel6	438
Sel7	516
Sel8	595
Sel9	674
Sel10	753
Sel11	832

### Maiana

Village	Households	Males (15-49)	Females (15-49)	Cumm Hholds	Selns
Tebikera	17	18	15	17	
Tekaranga	22	27	24	39	
Tematantongo	29	37	39	68	
Aobike	19	22	23	87	76
Tebanga	46	61	63	133	
Temwangaua	24	26	24	157	
Toora	19	18	26	176	
Tebwangatua	24	28	30	200	194
Teitai	5	8	8	205	
Tebiauea	31	53	40	236	
Raweai	30	45	52	266	
Bubutei	88	116	111	354	312

Sample Size	60
Cluster Size	20
Villages	3
Skip	118.0
Random Start	76
Sel1	76
Sel2	194
Sel3	312

## Abemama

Village	Households	Males (15-49)	Females (15-49)	Cumm Hholds	Selns
Abetiku	34	42	38	0	
Tabiang	97	162	152	97	90
Tekatirirake	48	62	50	145	
Tanimainiku	55	55	62	200	
Kauma	0	87	84	200	
Baretoa	59	69	73	259	201
Tabontebike	52	73	77	311	
Kariatebike	32	33	39	343	312
Bangotantekabaia	46	102	129	389	
Tebanga	49	65	53	438	423
Manoku	57	63	73	495	
Kabangaki	60	77	90	555	534
Biike	3	4	4	558	

Sample Size	100
Cluster Size	20
Villages	5
Skip	111.0
Random Start	90
Sel1	90
Sel2	201
Sel3	312
Sel4	423
Sel5	534

## Nikunau

Village	Households	Males (15-49)	Females (15-49)	Cumm Hholds	Selns
Muribenua	46	51	54	46	40
Tabutoa	34	39	22	80	
Rungata	143	207	188	223	96, 151, 207
Manriki	32	33	45	255	
Nikumanu	65	65	63	320	263, 319
Tabomatang	15	25	17	335	

Sample Size	120
Cluster Size	20
Villages	6
Skip	55.8
Random Start	40
Sel1	40
Sel2	96
Sel3	151
Sel4	207
Sel5	263
Sel6	319

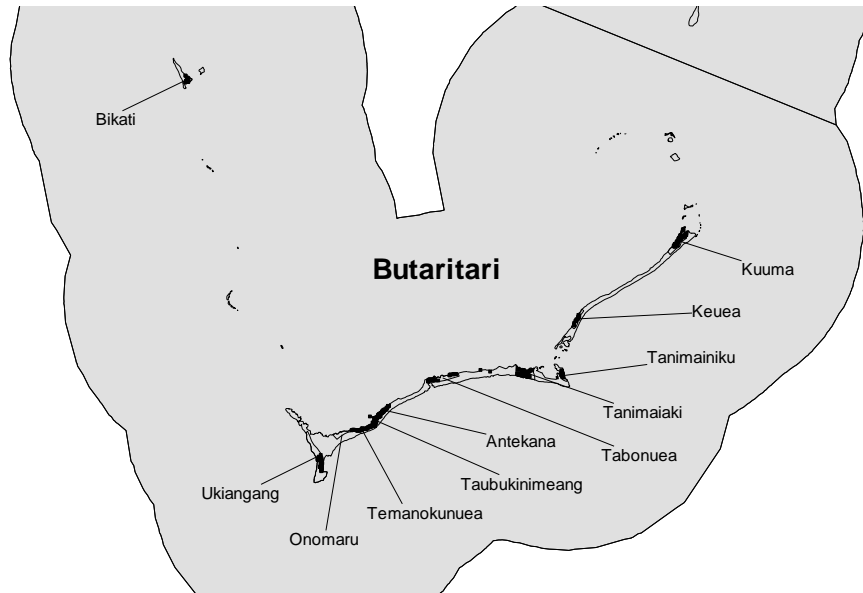
## North Tabiteuea

Village	Households	Males (15-49)	Females (15-49)	Cumm Hholds	Selns
Tekabwibwi	26	32	32	26	14
Tekaman	46	62	41	72	66
Tanaeang	81	111	109	153	118
Buota	60	82	65	213	170
Terikiai	44	67	54	257	222
Eita	94	212	309	351	274, 326
Utiroa	103	131	127	454	378, 430
Tauma	38	42	58	492	483
Kabuna	32	49	41	524	
Tenatorua	19	27	36	543	535
Bangai	8	7	13	551	
Aiwa	22	40	32	573	

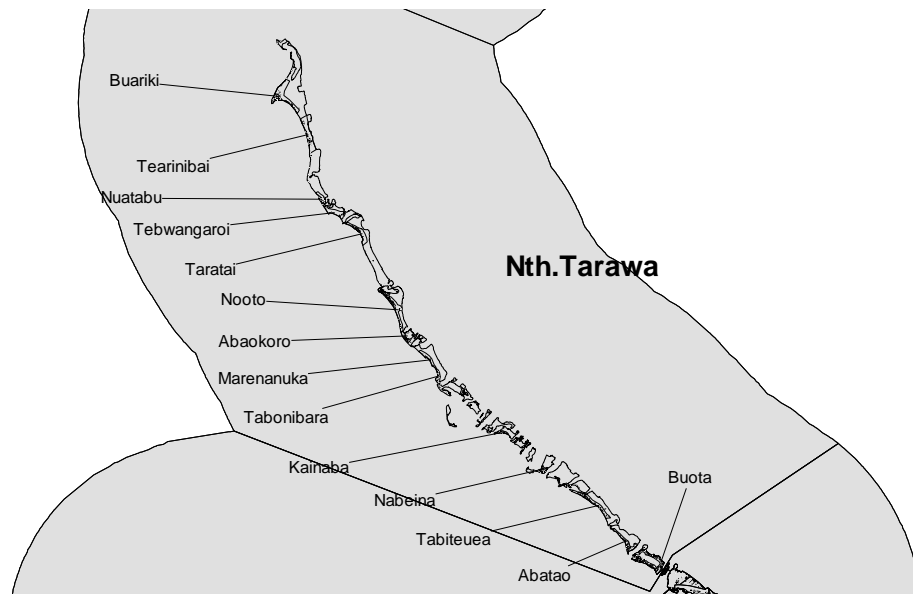
Sample Size	220
Cluster Size	20
Villages	11
Skip	52.1
Random Start	14
Sel1	14
Sel2	66
Sel3	118
Sel4	170
Sel5	222
Sel6	274
Sel7	326
Sel8	378
Sel9	430
Sel10	483
Sel11	535

## **Appendix 6 – Outer Island Maps**

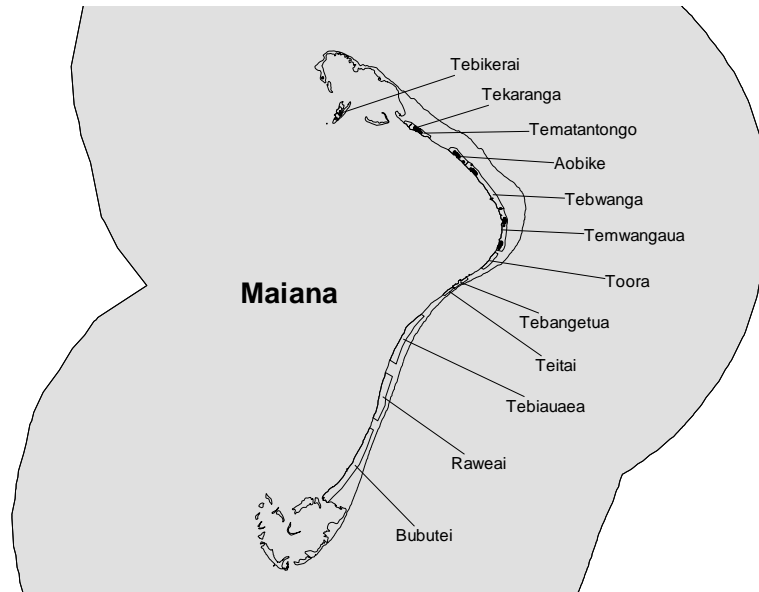
### **Butaritari**



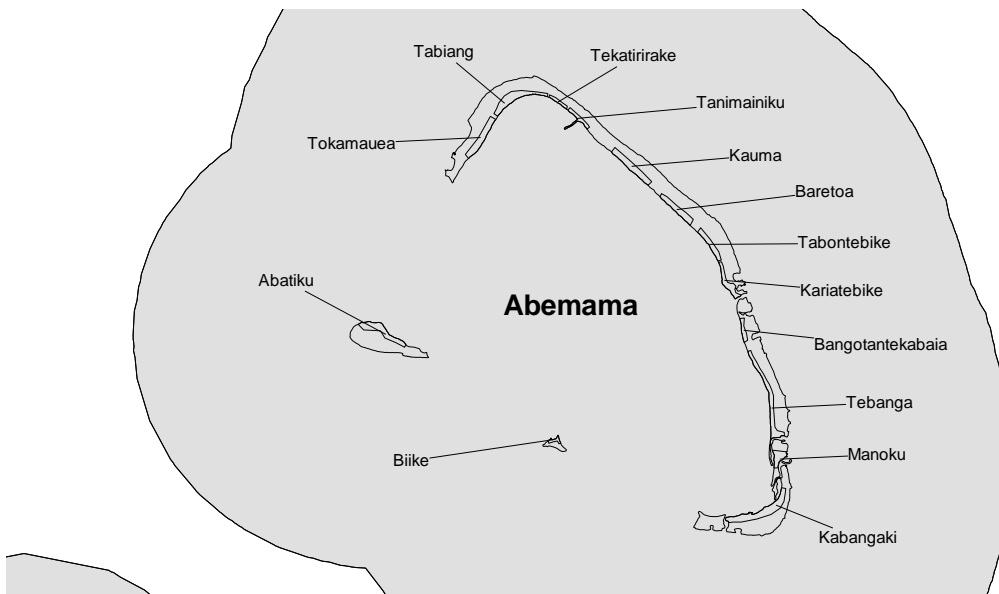
### **Nth Tarawa**



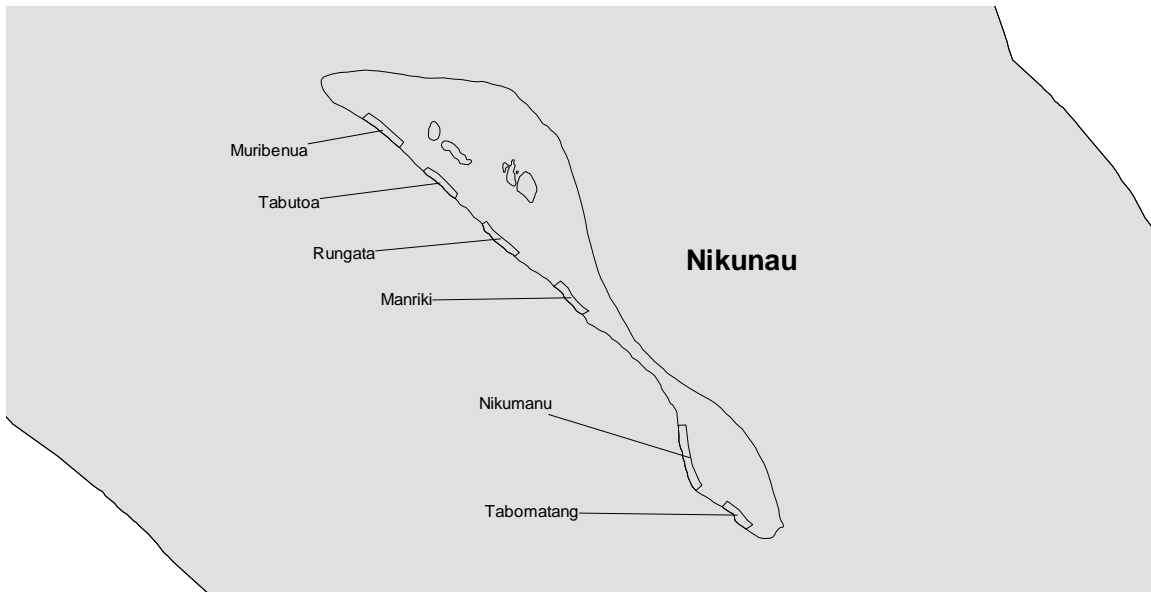
## Maiana



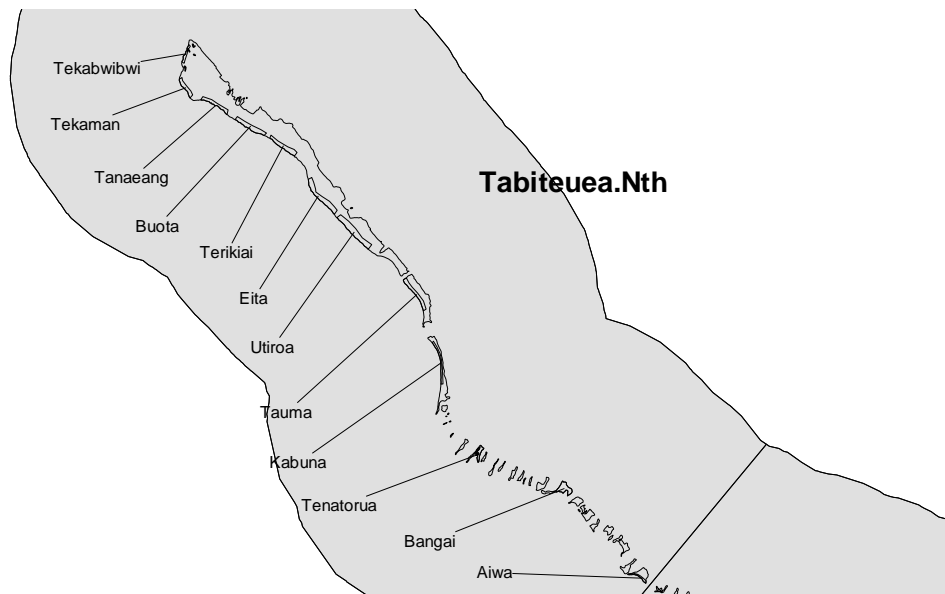
## Abemama



## Nikunau



## North Tabiteuea





## **Kiritimati**

