



REGIONAL OFFICE FOR THE WESTERN PACIFIC  
BUREAU REGIONAL DU PACIFIQUE OCCIDENTAL

DRAFT EXECUTIVE SUMMARY

Subject : Lymphatic Filariasis Elimination Program

Place(s) visited : Kiribati

Dates of mission : 10 to 17 May 2007

Author(s) and designation : Dr Corinne CAPUANO, WHO Medical Officer

Name of focus : MVP

Participating agencies : WHO

Source of funds :

*Please find attached the draft executive summary of the above report. Please note that this has not yet been edited or fully cleared by the Regional Office. The full report will be sent to you in due course.*

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**WORLD HEALTH ORGANIZATION  
REGIONAL OFFICE FOR THE WESTERN PACIFIC**

**MISSION REPORT EXECUTIVE SUMMARY**

Dr Corinne CAPUANO  
Author(s)

Kiribati  
Place(s) visited

10 to 17 May 2007  
Dates of mission

Report series number

Project identifier

Activity code

**Objectives of mission:**

In collaboration with the Ministry of Health:

1. To review the progress made by the program to eliminate LF from Kiribati
2. To discuss the revised protocol for the C survey and to develop the plan of implementation
3. To provide support for the development of a plan for morbidity control
4. To provide refresher training in care through home visit to LF patients

**Summary of activities, findings, conclusions and recommendations:**

The Lymphatic Filariasis (LF) parasite in Kiribati is *Wuchereria bancrofti* nocturnally periodic. The main vector is *Culex quinquefasciatus*, which has a nighttime activity pattern. After a briefing with the WHO Country Liaison Officer the writer met with the Principal Nursing Officer of the Northern District who is also the national coordinator of the LF elimination program. The writer met with the pharmacist assistant, the acting director of laboratory services, the director of the statistics office, the doctors of the main hospital and the staff of two health centers. Two visits to patients with elephantiasis were organised by the national coordinator and the writer used these opportunities to do on-the-spot training on individual care and treatment (demonstration on how to wash sick legs and to provide proper advices).

Kiribati completed 5 rounds of MDA with a reported coverage below 65% except for the last round of MDA. The main challenges currently facing the program are the lack of detailed data on the work completed so far and on the sentinel sites surveyed. It is therefore difficult to get a clear understanding of the current LF situation.

The post MDA survey will be of tremendous importance as it will help to answer many of the pending questions. This survey should be considered as a priority by the program.

The morbidity control program has been discussed and a basic plan has been developed with an estimated budget. Potential partners like the Pacific Leprosy Foundation (PLF) should be approached to provide financial support for this part of the LF program.

The vector control activities could also be further developed. LLN will be sent to Kiribati to cover the islands identified for distribution.

**RECOMMENDATIONS**

1. Post-MDA survey. The protocol discussed and agreed should be strictly implemented.
2. Based on the results of the post-MDA survey different options for the next 5 years should be proposed and discussed.
3. The WR/SP (PacELF) office will send about 9000 long lasting nets to be distributed to selected sites (the whole population of the 3 islands in the Line group and the known hot spots of LF transmission in the other islands groups)
4. Information on morbidity due to LF should be collected using the form developed and nurses should be trained on a one by one basis.

**Key words** : Kiribati, Lymphatic Filariasis Elimination Program, Post-Mass Drug Administration survey, morbidity control

## 1. PURPOSE OF MISSION

The writer visited Kiribati from 10 to 17 May 2007 with the following terms of references:

In collaboration with the Ministry of Health:

- (1) to review the progress made by the program to eliminate Lymphatic Filariasis from Kiribati;
- (2) to discuss the revised protocol for the post MDA survey and to develop the plan of implementation;
- (3) to provide support for the development of a plan for morbidity control;
- (4) to provide refresher training in care through home visit to LF patients.

## 2. BACKGROUND

Kiribati is made of 33 scattered islands and has a population of 92,533 people (2005 census). 90% of the population is located in the Gilbert Islands, on the western side of the country and 10% in the Line Islands on the eastern part of Kiribati. The Phoenix Islands, located between the two previous groups are not inhabited except the small island of Kanton with 41 people. Administratively the country is divided into 5 districts: Northern, Central, Southeast, Southwest (all in the Gilbert islands group) and Line&Phoenix.

The Lymphatic Filariasis (LF) parasite in Kiribati is *Wuchereria bancrofti* nocturnally periodic. The main vector is *Culex quinquefasciatus*, which has a nighttime activity pattern.

The program to Eliminate LF started in Kiribati in 2001 with the first round of Mass Drug Administration (MDA). This program is based on a yearly distribution of diethylcarbamazine (DEC) and albendazole (ALB) to the entire population. The fifth and last round of MDA took place in 2005. In late 2006 Kiribati started an assessment of the impact of MDA in two islands. As not-properly stored ICT tests and convenient sampling method were used the writer advised to stop the survey until further assessment could be made and a proper sampling method developed. It was then decided that the writer would visit Kiribati for a review of the progress made so far, the preparation of a proper survey protocol to assess the impact of MDA and the development of a plan for morbidity control. These are the objectives of this mission.

## 3. ACTIVITIES AND FINDINGS

### **3.1. Activities**

After a briefing with the WHO Country Liaison Officer the writer met with the Principal Nursing Officer of the Northern District who is also the national coordinator of the LF elimination program. The writer met with the pharmacist assistant, the acting director of laboratory services, the director of the statistics office, the doctors of the main hospital and the staff of two health centres. Two visits to patients with elephantiasis were organised by the national coordinator and the writer used these opportunities to do on-the-spot training on individual care and treatment (demonstration on how to wash sick legs and to provide proper advices).

### **3.2. Findings on progress made by the program**

Due to the paucity of the information available in the PacELF office on MDA and monitoring and evaluation carried out in Kiribati, one of the goals of this mission was to gather as much information and documentation as possible to document the work done so far. Unfortunately, the current LF manager has been in charge since early 2005 only and the previous manager, a Pilipino doctor in charge from 2003 to 2005 left limited data, all in an electronic format (Word). The first coordinator of the program from 2000 to 2003 retired and no information is available from this period. The writer tried to gather information by screening the files available on MVP and LF in the CLO office.

Only fragmented information was found.

This highlights the imperious need for each country to document, develop and keep proper and detailed information on the activities implemented to eliminate LF. The PacELF office should collect and archive all documents for future reference and for certification purposes.

#### **3.2.1. Distribution strategy**

The first MDA took place from August to September 2001. The following rounds took place every August/September until 2005, which was the year of the 5<sup>th</sup> round. The number of tablets needed was calculated for each island by the national coordinator and the pharmacy was then responsible of shipping the drugs to each island before the starting date of the MDA. As each island has a health centre, the shipment was sent to the HC and the Medical Assistant (MA) was responsible for the distribution of the drugs in the island. There is no report of shortage of drugs during the MDAs and the leftover, if any, was not returned to the central level.

Nurses and nurse aid distributed the drugs on a door-to-door basis with a Directly Observed Treatment strategy. Each member of the team received an allowance of \$AUS 50 (flat rate) at least for the last two rounds.

The number of tablets given was based on age and not on weight as follows:

AGE	Number of DEC tablets	Number of Albendazole
2-5	1	1
6-10	2	1
11-15	4	1
16-20	6	1
21-50	8	1
Above 51	7	1

Taking into account the high prevalence of overweight people in Kiribati the dosage of DEC used was probably below the dosages required for a number of people.

It is also noted that breastfeeding women were excluded during the 5 rounds. This may have some importance as breastfeeding can last up to 3 years in Kiribati.

#### **3.2.2. Data collection**

During the last 2 rounds of MDA the teams collected only very basic information: group age and number of treatment distributed (**Annex 1**). The national coordinator collected the forms and calculated the coverage using census data as the denominator. This could explain why round 4 and round 5 only report on the % of population treated/reported (census). As the population

was not registered it was not possible to calculate the % of population treated/population registered.

If further MDAs are required more detailed information should be collected. A new format is proposed in **Annex 2**.

### 3.2.3. Reported coverage

The coverage, as reported by the country appears below:

MDA1: 60%

MDA2: 46%

MDA3: 44%

MDA4: 67%

MDA5: 87%

Unfortunately no register has been kept and it is now impossible to get detailed information about these relatively low coverage rates.

The improvement of coverage in 2004 and 2005 is reported to be linked with the period during which the Philippino doctor was in charge of the program and the fact that the distributors received a lump sum of \$AUS 50 calculated as a daily allowance of \$AUS 10/day for 5 days.

### 3.2.4. Surveyed coverage

No surveyed coverage was carried out.

### 3.2.5. Treatment

It is reported that people who were identified as ICT positives during the 2006 surveys have all been treated with DEC and Albendazole.

### 3.2.6. Monitoring and evaluation

The data currently available and the information collected do not give a clear picture of the location of sentinel sites and the surveys carried out.

The writer could not find more detailed information than the one presented in the 2006 PacELF databook.

### 3.2.7. Vector control

The last vector-control activities took place in the 1980s with spaying of DDT. Since then the interest in vector control has faded and no activity has been carried out. It is reported that some people, mainly in the outer islands do use bednets during the wet season, from October to February because of the nuisance created by the increased number of mosquitoes during that period. The individuals and families can buy bednets at the shops but the price (\$AUS 30) is quite expensive for Kiribati. So most of the people buy mosquito net yards and make their own bednets for an average of \$AUS 10 to 15. However these bednets are not impregnated and one can anticipate that the impact is relatively limited.

As the main LF vector in Kiribati is *Culex quinquefasciatus*, and has a nighttime activity pattern, the use of Long Lasting Impregnated Nets (LLN) should effectively contribute in controlling the transmission of the parasite.

The WR/SP (PacELF) office will send about 9,000 LLN for distribution to the most remote islands and the islands known to have elephantiasis. The areas selected are listed in **Annex 10**.

#### 3.2.8. Individual care and treatment

There is currently no strategy and no plan for morbidity control and individual care. The national coordinator attended one session during a meeting in Samoa on individual care with a demonstration made by a nurse in Samoa.

During this mission the writer visited two patients with elephantiasis of the leg. She used these opportunities to do on-the-spot training on basic measures as washing legs and providing proper advices to the patients. The material used for these demonstrations (washbasin, soap, towels, WHO poster on individual care) was left with the patients.

The next steps were discussed and agreed with the national coordinator.

The first step is to develop a LF patient register. The easiest way to do it is to gather information on the number of elephantiasis from each island. This could be done through a simple questionnaire to be filled by volunteers (**Annex 3**).

Once the register is developed step 2 will start: training of nurses on individual care and visit to LF patients to teach them individual care and to assess their other needs. This must be done through on-the-spot training and not during a workshop. An estimate of the budget needed for these activities is attached to this report (**Annex 4**).

Step 3 will take place when the system is in place and will consist in the nurses regularly visiting the patients. A form has been developed for follow up purposes (**Annex 5**)

#### 3.3. Post-MDA survey (C-survey)

The importance of this survey for further decision to stop or to continue MDA has been well explained, discussed and it is now well understood that a proper protocol must be strictly followed using non expired and properly stored ICT. Discussion occurred with the pharmacist who offered to provide space for storage between 2 and 8 degrees, if she is informed in advance of the arrival of the ICT.

After discussion with the National coordinator it was agreed that the protocol as described in the PacMan book needed to be revised for the following reasons:

- updated population data are available after the 2005 census
- a confusion in the islands grouping in the PacMan book
- the fact that the Phoenix islands group has a population of 41 people only and cannot be considered as a group for this survey

Therefore a new protocol using a cluster sampling method has been discussed and agreed.

The country was divided into three groups:

- Group 1: Gilbert island except South Tarawa,
- Group 2: South Tarawa,
- Group 3: Line Islands.

The villages were selected following the method described in **Annex 6**.

The Households will be selected by the WHO/SP office (PacELF) using the file downloaded at the statistic office (list of name of head of households per village) by the writer during her mission and the final list of households to be surveyed will be given to the National coordinator.

A total number of 2,250 people will be tested.

A different register/book for each village (or island) will be used. A format is proposed in **Annex 7** for the collection of data. All books will be sent to WR/SP (PacELF) office for data entry, data analysis and drafting the report.

A plan of implementation with a timetable and an estimated budget has been developed (**Annex 8 and 9**).

It was agreed that the staff in Kiribati will do the field work in close collaboration with the office of the CLO Kiribati and that the WHO/SP office (PacELF) will do the data entry, data analysis and will draft the final report.

After the completion of the survey and based on the results the options for following activities will be developed and discussed.

## 4. CONCLUSIONS AND RECOMMENDATIONS

### **4.1. Conclusions**

Kiribati completed 5 rounds of MDA with a reported coverage below 65% except for the last round of MDA. The main challenges currently facing the program are the lack of detailed data on the work completed so far and on the sentinel sites surveyed. It is therefore difficult to get a clear understanding of the current LF situation.

The post MDA survey will be of tremendous importance, as it will help to answer many of the pending questions. This survey should be considered as a priority by the program.

The morbidity control program has been discussed and a basic plan has been developed with an estimated budget. Potential partners like the Pacific Leprosy Foundation (PLF) should be approached to provide financial support for this part of the LF program.

The vector control activities could also be further developed. LLN will be sent to Kiribati to cover the islands identified for distribution.

### **4.2. Recommendations**

The conclusions and recommendations were presented, discussed and agreed with the coordinator and the CLO during the last day of the visit.

1. Post-MDA survey. The protocol discussed and agreed should be strictly implemented.
2. Based on the results of the post-MDA survey different options for the next 5 years should be proposed and discussed.
3. The WR/SP (PacELF) office will send about 9000 long lasting nets to be distributed to selected sites (the whole population of the 3 islands in the Line group and the known hot spots of LF transmission in the other islands groups)
4. Information on morbidity due to LF should be collected using the form developed and nurses should be trained on a one by one basis.

## 5. ACKNOWLEDGEMENTS

The writer would like to thank all the people met and the Ministry of Health of Kiribati for the support provided during her visit. Appreciation is extended in particular to Mrs Teiti Bwenawa for interrupting her activities to facilitate this mission.



## LF Mass Drug Administration Register, KIRIBATI

1. Island .....
2. District .....
3. Village .....
4. Name of distributors.. .....
5. Date .....
6. Name of head of Household .....

Write name and surname of **each person** usually living in this household (including absent, children under 2 year old, pregnant women, etc). Call each of the member one by one, give the drugs, watch them swallowing the drugs and fill up the table below. One row per member of the HH.

No	Given Name	Age (years)						Sex		Treatment <b>swallowed</b>								Remarks
								M	F	Yes	No/reason							
		2-7	8-19	20-34	35-49	50-59	> 60				1	2	3	4	5	6	7	
1																		
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		

- |   |                          |
|---|--------------------------|
| 1. Pregnant woman                       | 5. Refusal to take drugs |
| 2. Child under 2 years                  | 6. Absent                |
| 3. True medical contraindication        | 7. Other reason          |
| 4. Refusal to swallow drugs immediately |                          |

ANNEX 2

## **Lymphatic Filariasis Elimination Program, KIRIBATI**

### **Information on patients with ELEPHANTIASIS**

The objective of this form is to collect information on patients leaving with elephantiasis in KIRIBATI in order to provide them appropriate support and care.

You must visit each village in your island and find if there is any person leaving with elephantiasis: big leg, big arm, big breast or hydrocele.

For each person found with elephantiasis please fill up the attached form (one form per patient).

Once completed, return all forms to Mrs Teiti Bwenawa.

**Lymphatic Filariasis Elimination Program, KIRIBATI**

Information on patients with ELEPHANTIASIS

Name of volunteer:

Date of visit:

Island:

Village:

Name of patient:

Sex:

Age:

ELEPHANTIASIS OF:

Left leg	YES	NO
----------	-----	----

Right leg	YES	NO
-----------	-----	----

Left arm	YES	NO
----------	-----	----

Right arm	YES	NO
-----------	-----	----

Left breast	YES	NO
-------------	-----	----

Right breast	YES	NO
--------------	-----	----

Hydrocele	YES	NO
-----------	-----	----

**Morbidity control in Kiribati**  
**Estimated budget for 2007 and 2008**

**Step 1: Built a register for LF patients**

- ❖ Information to collect (use forms attached):
  - name
  - place of residence
  - age
  - sex
  - type of disability
- ❖ One volunteer in each island to collect information on a village by village basis
- ❖ Two volunteers for bigger islands
- ❖ The volunteer will visit each village in his island to gather information on the attached forms
- ❖ The forms will be returned to the LF National Coordinator
- ❖ The national register will be developed by the LF National coordinator

**Step 2 : Assess individual needs and implement training on individual care.**

No workshop.

On the spot training on a one by one basis.

**Step 3 : Assess individual needs and implement training on individual care.**

Monthly visits to patients and supplies.

**Budget needed:**

**For step 1:**

30 volunteers x \$AUS 40 (including transport and DSA) = **\$AUS 1,200**

**IEC material**

**For step 2:**

Transport cost: \$AUS 7000

Supplies for individual care: 50 patients x \$AUS 10= \$AUS 500

Training \$AUS 6000

Total for step 2 = **\$AUS 13,500**

**For step 3:**

Transport cost: \$AUS 7000

Supplies for individual care: 50 patients x \$AUS 10= \$AUS 500

**Total per year = \$AUS 7,500**

Video on LF disability, individual care, vector control and breeding sites= **\$ AUS 15,000**

## Lymphatic Filariasis Elimination Program, KIRIBATI

## ANNEX 5

## YEAR 2007

Village:.....

[illegible]

*May 2007, WHO/SP office*

## **Village selection in Kiribati**

### **Materials**

A list of villages and the population and number of household of each village in Kiribati were obtained from Kiribati 2005 Census of population and housing: provisional tables at <http://www.spc.int/prism/country/ki/stats/> (Kiribati National Statistics Office).

### **Strata**

Kiribati was stratified by geographical locations into three groups (strata) – 1 Gilbert Islands except South Tarawa, 2 South Tarawa, and 3 Line Islands and Phoenix Islands. Due to its large population, South Tarawa was considered as one stratum, whereas the Northern part of Tarawa atoll was considered as part of another stratum that includes the rest of Gilbert Islands. According to 2005 Census, in Phoenix islands only one island of Kanton is currently inhabited and was included in the same stratum as Line Islands.

### **Sample size**

Sample size per stratum was estimated to be 750 according the table in PacMAN book for 25,000<50,000 target population. According to the table, the sample size for Line Island stratum is 707 (5,000<10,000); however it was decided to sample the same number of persons in the Line Island stratum as in two other strata.

### **Cluster**

15 households were considered as a cluster in this survey. According to the 2005 Census, the average household size in Kiribati is 6.4 and thus 8 clusters per stratum were needed to have the total sample size of approximately 750 persons.

### **Selection of clusters in each stratum**

A list of villages per stratum was prepared, listing villages by islands roughly from North to South. For South Tarawa, the order, in which the villages were listed in the provincial tables, was adopted.

Then for each stratum, the total number of clusters was calculated by dividing the total number of household by 15.

Once the total number of clusters was estimated, the sampling interval was calculated by dividing the total number of cluster by 8 (the number of clusters to be selected). Then the random number between 1 to the sampling interval was chosen and was considered as a starting point. By adding the sampling interval to the starting point successively until the

number becomes greater than the total number of clusters, a series of numbers was obtained and used to select villages to be sampled (see example).

For example,

Gilbert Islands except South Tarawa

510 clusters, thus sampling interval (the total number of cluster/the number of cluster that will be selected) was 64. The random number between 1 and 64 was 29; thus 29, 93 (29+64), 157, 211, 285, 349, 413, and 477 were the numbers used to select clusters/villages.

### List of villages selected

<b>GROUP 1 : GILBERT ISLANDS except SouthTarawa</b>					
Island	Village	Population	Total Households	No of clusters (1 cluster=15HH)	No of people to be tested
Makin	Kiebu	551	88	1	96
Marakei	Noraeua	311	54	1	96
Abaiang	Tabontebik	391	58	1	96
Maiana	Tekaranga	114	22	1	96
Kuria	Oneeke	188	36	1	96
Nonouti	Temotu	210	35	1	96
Beru	Tabiang	416	93	1	96
Onotoa	Aiaki	186	45	1	96
<b>TOTAL</b>	<b>8</b>	<b>2367</b>	<b>431</b>	<b>8</b>	<b>768</b>
<b>GROUP 2 : SOUTH TARAWA</b>					
Island	Village	Population	Total Households	No of clusters (1 cluster=15HH)	No of people to be tested
S Tarawa	Bonriki	2119	286	1	96
S Tarawa	Bikenibeu	6170	831	2	192
S Tarawa	Taborio	955	139	1	96
S Tarawa	Teaoraereke	3939	520	1	96
S Tarawa	Bairiki	2766	350	1	96
S Tarawa	Beitio	12509	1640	2	192
<b>TOTAL</b>	<b>6</b>	<b>28458</b>	<b>3766</b>	<b>8</b>	<b>768</b>
<b>GROUP 3 : LINE ISLANDS</b>					
Island	Village	Population	Total Households	No of clusters (1 cluster=15HH)	No of people to be tested
Teraina	Matanibike	191	32	1	96
Tabuaeran	Tereitaki	438	77	1	96
Tabuaeran	Tenenebo	461	85	1	96
Tabuaeran	Mwanuku	152	29	1	96
Kiritati	London	1829	288	1	96
Kiritati	Tabwakea	1881	276	2	192
Kiritati	Banana	1170	171	1	96
<b>TOTAL</b>	<b>7</b>	<b>6122</b>	<b>958</b>	<b>8</b>	<b>768</b>

## Post MDA survey in Kiribati

1 July to 30 September 2007

1 July to 30 September 2007

Register for field work

**One register (book) per village. Write the name of the village on the cover page**

**One page per Household.**

**One row per member of the Household**

TO BE FILLED UP IN CAPITAL LETTER

Name of head of Household : .....

[illegible]



**List of Places for distribution of LLN in 2007**  
LF program, KIRIBATI

The selection of areas for distribution of LLN is based on:

- remoteness
- accessibility
- past history of cases of elephantiasis.

**LINE ISLANDS group**

Name of island	Population (2005 census)	Estimated number of LLN*
Teraina (Washington)	1155	462
Tabuaeran (Fanning)	2539	1017
Kirimati	5115	2046
<b>TOTAL</b>	<b>8809</b>	<b>3525</b>

*\*A ratio of 2.5 people/net has been used.*

The LLN will be shipped directly from Fiji to Kirimati.

**GILBERT ISLANDS group**

Name of island	Population (2005 census)	Estimated number of LLN
Marakei	2741	1097
Kurio	1082	433
Aranuka	1158	463
Nikunau	1912	765
Arorae	1256	502
<b>TOTAL</b>	<b>8149</b>	<b>3260</b>

*\*A ratio of 2.5 people/net has been used.*

An additional **2,500 LLN** will be sent for distribution in selected places of South Tarawa.

**LIST OF PERSONS MET**

1. Mrs Pamela MESSERVY, WHO Country Liaison Officer
2. Ms Teiti BWENAWA, Principal Nursing Officer for Northern District and national coordinator of the LF elimination program
3. Mrs Kaonre TIHA, Assistant pharmacist
4. Mrs Tiero TETABEA, acting Director of laboratory services
5. M Ieete ROUATU, Director statistics office
6. Mrs Tetenge KANANOUA, LF patient, elephantiasis of the right leg
7. Dr Rajiv GUPTA, chief consultant surgeon (from India)
8. Staff of Beitio Hospital
9. Staff of Beiriki Health Center
10. Peace Corps Medical coordinator

**Mwakin Island. (Kiebu)**

<b>Item</b>	<b>Amount \$ AUD</b>
Resource : \$45.00 x 2 x 7 days	630.00
Airfare: \$168.00 x 2 w/return	336.00
Meal allowance: \$10.00 x 3 x 5 days	150.00
Motor – bike rental \$20.00 x 7 days	140.00
Airport tax \$20.00 x 2	40.00
Boat hire \$100.00 x 2 ways	200.00
<b>Total:</b>	<b>\$1,496.00</b>

**Marakei Island. (Norauea)**

<b>Item</b>	<b>Amount \$AUD</b>
Resource: \$45.00 x 7 days x 1	315.00
Airfare: \$94.00 x 1 w/return	94.00
Meal allowance: \$10.00 x 4 x 5 days	200.00
Motorbike rental: \$20.00 x 7 days	140.00
Airport tax : \$20.00 x 1	20.00
<b>Total:</b>	<b>\$769.00</b>

**Abaiang Island. (Tabontebike)**

<b>Item:</b>	<b>Amount \$AUD</b>
Resources: \$45.00 x 7 days x 1	\$315.00
Airfare: \$45.00 x 1 person	\$45.00
Meal allowance: \$10.00 x 4 x 5 days	\$200.00
Motorbike rental : \$20.00 x 7 days	\$140.00
Airport tax : \$20.00 x 1	\$20.00
<b>Total:</b>	<b>\$720.00</b>

**Maiana Island. (Tekaraanga)**

<b>Item:</b>	<b>Amount \$AUD</b>
Resources: \$45.00 x 2 x 7 days	\$630.00
Airfare : \$88.00 x 2 w/ return	\$176.00
Meal allowance: \$10.00 x 4 x 5 days	\$200.00
Motorbike rental: \$20.00 x 7 days	\$140.00
Airport tax : \$20.00 x 2	\$40.00
<b>Total:</b>	<b>\$1,186.00</b>

### Kuria Island.(Oneeke)

Item:	Amount \$AUD
Resources: \$45.00 x 7 days	\$315.00
Airfare: \$128.00 x return	\$128.00
Meal allowance: \$10.00 x 3 x 5 days	\$150.00
Motorbike rental: \$20.00 x 7 days	\$140.00
Airport tax x \$20.00 x	\$20.00
<b>Total:</b>	<b>\$753.00</b>

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### Nonouti Island. (Temotu)

Item:	Amount \$AUD
Resources: \$45.00 x 2 x7 days	\$630.00
Airfare : \$184.00 x 2 w/return	\$368.00
Meal allowances: \$10.00 x 3 x 5 days	\$150.00
Motorbike rental: \$20.00 x 7 days	\$140.00
Airport tax \$20.00 x 2	\$40.00
<b>Total:</b>	<b>\$1,328.00</b>

### Beru Island. (Tabiang)

Item:	Amount \$AUD
Resources: \$45.00 x 2 x 7 days	\$630.00
Airfare: \$264.00 x 2 w/return	\$528.00
Meal allowances: \$10.00 x 4 x 5 days	\$200.00
Motorbike rental: \$20.00 x 7 days	\$140.00
Airport tax : \$20.00 x 2	\$40.00
<b>Total:</b>	<b>\$1,538.00</b>

### Onotoa Island.(Aiaki)

Item:	Amount \$AUD
Resources: \$45.00 x 7 days	\$315.00
Airfare: \$264 return	\$264.00
Meal allowances : \$10.00 x 4 x 5days	\$200.00
Motorbike rental: \$20.00 x 7 days	\$140.00
Airport tax \$20.00	\$20.00
<b>Total:</b>	<b>\$939.00</b>

**South Tarawa (Bonriki, Bikenibeu, Taborio, Teaoraereke, Bairiki & Betio).**

<b>Item:</b>	<b>Amount: \$AUD</b>
Transport: \$50.00 per day x 6 days	\$300.00
Meal allowance : \$10.00 x 18 persons x 6 days (Training & survey)	\$1,080.00
<b>Total :</b>	<b>\$1,380.00</b>

**Kiritimati Island & Line group ( LF Training workshop & C - Survey)**

<b>Item:</b>	<b>Amount \$AUD</b>
DSA ( Kiritimati Is) \$150 x 7 days	1,050.00
Airfare: Tar/Nadi/Kiritimati w/return	2,054.00
DSA Nadi FJ \$178.00 x 2 nites	279.00
Airport tax : Tarawa & Fiji \$40.00	40.00
Transport \$80.00 x 7 days	560.00
Miscellaneous	500.00
DSA for 4 Phoenix nurses (Tabuaeran & Teeraina \$45.00 x 4 x 7 days	1,260.00
Meal allowance: \$10.00 x 10 x 7 days (Kiritimati staffs for training & survey)	700.00
Meal allowance: \$10.00 x 3 x 2 days (Teeraina staffs for a survey)	60.00
Meal allowance: \$10.00 x 9 x 2 days (Tabuaeran staffs for a survey)	180.00
Boat fare \$100.00 x 4 w/return (Tabuaeran & Teeraina staffs)	400.00
<b>Total</b>	<b>\$7,083.00</b>