



PHOENIX ISLANDS PROTECTED AREA



**Report on**  
**BIOSECURITY TRAINING**  
**for**  
**Phoenix Islands Protected Area,**  
**Republic of Kiribati**

**Tarawa**  
4-11 June, 2012

**Report prepared by:** Pacific Invasives Initiative

**Written by:** Bill Nagle and Ray Pierce

< [w.nagle@auckland.ac.nz](mailto:w.nagle@auckland.ac.nz) >, < [raypierce@bigpond.com](mailto:raypierce@bigpond.com) >

**Citation:** PII (2012). Biosecurity Training for Phoenix Islands Protected Area, Republic of Kiribati (Tarawa, 4-11 June). Unpublished report. Pacific Invasives Initiative, Auckland New Zealand.

**Contact:** School of Biological Sciences, Tamaki Campus, The University of Auckland, Private Bag 92019, Auckland 1142, New Zealand. <[PII@auckland.ac.nz](mailto:PII@auckland.ac.nz)>

**Acknowledgement:** This training was funded by PII through a grant from the New Zealand Government's Aid Programme. PII acknowledges the support given by NZ-Aid to invasive species management in the Pacific.

## Contents

Summary: .....	3
Introduction.....	4
Purpose of training .....	4
Training Approach.....	4
Themes of workshops .....	4
Target groups.....	4
Learning Objectives .....	4
Relationship of training to The Republic of Kiribati Biosecurity Act 2011 .....	5
Relationship of training to Phoenix Islands Restoration Project: .....	5
Synopsis of Training .....	5
Workshop 1 .....	5
Workshop 2.....	9
Sustainability workshop with senior MELAD/PIPA staff; 8 June .....	11
Development of management options for the myna population at Betio Port; 6, 8-10 June.....	12
Conclusions: .....	12
Recommendations:.....	14
References: .....	14
APPENDIX 1: Workshop timetable.....	15
APPENDIX 2: Names of staff attending.....	15

## Summary:

Two two-day workshops (one for Ministry of Fisheries observer training staff and Maritime Police and the other for Ministry of Environment, Lands, Agriculture, Development (MELAD (ECD/Ag)) were held on Tarawa, Kiribati.

The purpose of the workshops was to enable relevant government agencies to implement the Biosecurity Guidelines for the Phoenix Islands Protected Area (PIPA) and prevent the spread of invasive species within the Republic of Kiribati.

The workshops included classroom and practical exercises and activities on the Police patrol vessel (RKV Teanoa) and at Betio port.

A planned Sustainability Workshop with senior MELAD/PIPA staff to ensure that support and resources will be available to sustain biosecurity activities and protect the investment and consolidate the progress made in the PIPA could not be held.

Development of management options for the myna population at Betio Port was also discussed and a surveillance programme was started in preparation for eradication planning.

The workshops were successful in raising awareness of the values of, and threats to, the PIPA and provided participants with baseline knowledge and skill. But participants raised a number of issues, including resourcing and further training, which require attention from senior managers. Recommendations are made on some of those issues.



Participants discuss roles and responsibilities at a Phoenix Islands Protected Area Biosecurity Training Workshop run by the Pacific Invasives Initiative in Tarawa, Kiribati. (Photo: Bill Nagle)

## **Biosecurity Training on Tarawa, Republic of Kiribati**

### **Introduction**

**Dates:** 4-11 June, 2012

(Travel days: 2, 4, 11 June - see Appendix 1 for Timetable)

**Trainers:** Pacific Invasives Initiative

Facilitator/SME: Bill Nagle

SME: Ray Pierce

### **Purpose of training**

To enable relevant government agencies to implement the Biosecurity Guidelines for the Phoenix Islands Protected Area (PIPA) (Pierce, 2011) and prevent the spread of invasive species within the Republic of Kiribati

### **Training Approach**

Two-day workshop on Tarawa for Ministry of Fisheries observer training staff and Maritime Police. To include classroom and practical exercises and an exercise on the Police patrol vessel (RKV Teanoa) at Betio port.

Two-day workshop on Tarawa for Ministry of Environment, Lands, Agriculture, Development (MELAD (ECD/Ag)) and Ministry of Health staff. To include classroom and practical exercises and an exercise at Betio port.

Sustainability workshop with senior MELAD/PIPA staff to ensure support and resources will be available to sustain biosecurity activities to protect the investment and consolidate progress made in the PIPA.

Development of biosecurity arrangements for one outer island or for the myna population at Betio Port.

### **Themes of workshops**

Workshop 1: Improving biosecurity on fishing vessels that move through PIPA

Workshop 2: Improving biosecurity on domestic vessels that operate in Kiribati waters

Workshop 3: Sustaining PIPA and Kiribati biosecurity activities into the future

### **Target groups**

Five target groups were identified:

- 1) Ministry of Fisheries trainers of observers on fishing vessels;
- 2) Staff from MELAD and other relevant GOK agencies associated with biosecurity at ports and on inter-island vessels (Quarantine, Maritime Police, Health);
- 3) Captains of domestic ships;
- 4) Management staff from PIPA, MELAD and other relevant GOK agencies;
- 5) Visiting specialist managers.

(see Appendix 2 for list of participants)

### **Learning Objectives**

To improve Kiribati capacity to:

- identify the major invasive species threats to PIPA,
- identify risk pathways,
- identify invasive species arriving at PIPA,
- undertake passive and active surveillance for invasive species threats,
- respond appropriately to incursions of invasive species at PIPA.

### **Relationship of training to The Republic of Kiribati Biosecurity Act 2011**

*“AN ACT TO prevent the entry of animal and plant, pests and diseases into Kiribati; to control their establishment and spread in regulate the movement of animal and plant pests and diseases and of animals and plants and their products; to facilitate international cooperation in respect of animal and plant diseases; and to make ancillary and related provisions.”*

*“(“biosecurity” means the control by legal and administrative means of pests and diseases affecting animals, plants and their products, in order to avoid adverse effects from such pests and diseases on the economy and health of Kiribati)”*

### **Relationship of training to Phoenix Islands Restoration Project:**

*Objective 4. Biosecurity measures implemented and capacity building for Kiribati and Pacific achieved - “Biosecurity regimes are being effectively and consistently applied by relevant Kiribati agencies and supported by stakeholders and visitors to ensure pest-free status is maintained and therefore seabird populations and ecosystems are flourishing.”*

### **Synopsis of Training**

#### **Workshop 1**

*Day 1, 5 June, 2012:* The training was opened by PIPA Director Tukabu Teroroko who confirmed that biosecurity in the PIPA will be strengthened by establishing biosecurity/quarantine positions at Kanton Island. Trainers and participants were welcomed by MELAD Secretary Manikaoti Timeon who formally recognised the past work of Ray and PII in Kiribati and emphasised the myna issue at Betio. The response from Ray acknowledged the welcomes and reminded all of the need for the sustainability meeting with managers.



Manikaoti Timeon, MELAD Secretary, welcomes the training team and participants to the first of two Phoenix Islands Protected Area Biosecurity Training Workshops run by the Pacific Invasives Initiative in Tarawa, Kiribati. (Photo: Teaarō Otiauea)

## Introductions and expectations

Fisheries: Tekiru, Ioreba, Uriano, Awia – have observed many issues in the past including in PIPA, talked of carers of the islands, many biosecurity issues on vessels, have little understanding of biosecurity and want to learn more about it.

Police: John and Karea – emphasized inadequate laws for locals going ashore. Has been inadequate funding for frequent patrols. Problem of detained vessels and no quarantine area, rubbish disposal, crews mingling.

ECD: Turang and Regina – have been administering Environment Act, particularly foreign vessels and especially fishing vessels, collecting rubbish. Recognised need to strengthen biosecurity for foreign and especially domestic vessels.

PIPA: Tukabu – Need to stop rats and other invasives in the PIPA

Media: Rikamati – Keen to get biosecurity message out in print and radio media, ABC connections.

Introduction to Biosecurity – Bill covered prevention, surveillance, response, cost, emphasizing roles and personal responsibility.

Video of mice predation on albatross chick.

Background to PIPA values and threats – Ray emphasized PIPA values and importance on Pacific and global scene.

## Discussion

Maritime Police work - John described, in i-Kiribati, aftermath of McKean disaster (wrecked shark-finner late 2001) followed by open discussion on John's work.

Fisheries work - data collected and databases, Chinese and Taiwanese vessels the worst for IAS, Korean vessels getting better, USA and EU best, Taiwanese and Chinese vessels have cats as food, cats and dogs on Japanese and Korean vessels especially, purse-seiners have landing boats, long-liners do not but come in close to shore, SPC link for catch data only, observers have daily diary journaled on other observations, possible means of recording more information from observers, integrated work, etc.

Follow-up discussion and planning needed. Idea of licensing to include biosecurity outcomes, what data to record and how to document and analyse.

ECD work – part of boarding party including Health, Immigration, Customs, Fisheries (if fishing) Quarantine and ECD under Environment Act (emphasis on pollutants). Nothing checked on domestic vessels formally. Waste taken to landfill, but not checked (John noted that Police have removed rubbish – ECD pointed out it is not a role for Police).

“Spot-the-difference” poster competition prompted little discussion.

PIPA values and threats (continued) covered management and costs, threats, biosecurity issues and consequences of failing to keep out IAS such as ants (not able to be eradicated once well established). John mentioned that Police control ants on the patrol vessel by aerosol spraying.

## Prevention/Surveillance/Response activities

Ants – put out sampling (protein and sugar) lures (in pairs), checked and brought specimens to “lab” and examined with hand-lens. Recognized that there were different species, labeling exercise demonstrated importance of exact and quantified labels.

Rats – demonstration of equipment and then groups put out tracking tunnels , rat snap traps (Victor KaMate), live trap, bait stations (no bait available so used sticky boards) all considering locations (people issues, rat hunting areas, non-target issues, etc). Discussed issues of trapping and baiting, adapting programmes, traps and bait suited for vessels, checked legal and health matters.



Tracking tunnels and traps used during the Phoenix Islands Protected Area Biosecurity Training Workshops run by the Pacific Invasives Initiative in Tarawa, Kiribati. (Photo: Bill Nagle)

*Workshop 1, Day 2, 6 June, 2012:* Review and discussion of previous day. Collected rat monitoring and control equipment and discussed findings – non-target captures and how to avoid crabs, seabirds, etc, trap malfunctions, health and safety of operator and others, signs of scavenging versus escapees, and rat (and people) neophobia.

Prevention - Risk species, sources and pathway lists workshopped, good and bad biosecurity examples, task lists for visiting PIPA work-shopped. Knowledge, and therefore participation, was limited.

#### Afternoon activities

Visit to Police Patrol vessel (RKV Teanoa). Biosecurity leader appointed, briefed by Captain on vessel including sites where past biosecurity issues have been detected (rats, cockroaches, ants, etc).

Biosecurity breach (ants in sample bag) detected in our boarding party and removed bag to be cleaned.

Surveyed vessel for likely sites of invasives (galley, mess, store-rooms, hold etc).

Team set up detection and control measures – traps, tracking tunnels, bait stations.  
Collected invertebrates – ants (ant trail leading to galley).

Debrief on vessel included additional biosecurity tasks to cover for voyage to PIPA including evaluate threats, install appropriate and effective control/eradication methods for rats, ants, cockroaches, etc, (include above measures plus insecticides with Permethrin) and surveillance for these and other potential IAS.

Followed up with signage, posters, stick pads, vials, ziplocks, ant collection gear, etc and Quarantine to follow up with rat bait. Adapt data sheet for the patrol boat. Who to contact if a specimen – SPC etc

Discussed length of workshop – ‘OK’ to ‘too brief, need five days’. Noted increased cooperation among divisions, but needed every relevant division represented and asked for some to return the next 2 days.

Some notable messages of thanks in learning about threats and how to deal with them, especially on vessels.

Noted Common Mynas feeding in sandy/grass entrance of new fish processing plant 1730 h.  
Rikamati interviewed Ray and Bill for PIPA, biosecurity, ant and myna issues and a 20 minute radio session was aired on local radio - in English one evening and in i-Kiribati on another evening.



Participants in a Phoenix Islands Protected Area Biosecurity Training Workshop run by the Pacific Invasives Initiative in Tarawa, Kiribati, preparing for activities aboard the Police Patrol vessel (RKV Teanoa) at the port of Betio. (Photo: Bill Nagle)

## **Workshop 2**

*Day 1, 7 June, 2012:*

Prayer from Frank Tabeibeiti, meeting opened by Tukabu, response from Ray.

### Introductions and expectations

Quarantine: Frank explained current procedures in place at sea port and airport; he wanted to know more about invasive species, in particular new technology; understood the importance of stopping rats from reaching PIPA and other islands to keep them rat free. Tearoo present in afternoon following airport quarantine duties in morning. Neeti wanted to improve knowledge and skills and apply that knowledge. .

ECD: Turang – had learnt a lot last 2 days and very rewarding. Wanted to learn from Quarantine and Health sectors.

Health: Nikarawa – responsible for inspecting stores and food supplies; there is a big problem with food , being eaten by rats and wants to know how to stop rats. Tabomoa – first exposure to biosecurity or quarantine and wanted to learn from Quarantine Service and trainers. Teretia- this is her first training.

Fisheries: Ioreba spoke in Kiribati about past 2 days; Tapemon is a fisheries observer.

KI Shipping Services: Tamana Natanaera – attended and assisted discussion on 8<sup>th</sup>

Marine Division Ministry of Commerce, Tourism and Transport Development Tenanoraoui Supervisor Marine Guard – attended and assisted on 8th

Broadcasting and Publications Authority - Rikamati attended throughout preparing items for broadcasting.

PIPA: Tukabu – Present most of day

Introduction to Biosecurity (as per 7 June with different emphasis as appropriate) – Bill covered prevention, surveillance, response, cost, roles, followed by video and Ray covered values and threats at PIPA.

### Discussion

Problem identified of vessels including via PIPA to Kiritimati leaving without prior notification to Quarantine and Health (same applies to private vessels going anywhere).

In addition there is the problem of not knowing the local risks at Betio that could get aboard vessels to PIPA etc.

This was followed by discussion on legislation and relevant acts and ordinances under which the divisions operate, but in some cases we needed managerial input and clarification including roles of Marine Guard versus Port.

Quarantine's desire to ensure clean vessels depart for Kiritimati via PIPA is therefore not necessarily followed through – needs timetabled addressing of rats and ants, beetles, etc, before and at departure of vessels, so shipping departure timetables are needed by all parties concerned (see afternoon exercise).

### Exercises

Ants – sampling programmes as per 7 June.

Rats – demos and then groups as per 7 June

*Workshop 2, Day 2, 8 June, 2012:*

Reviewed previous day

Collected rat and ant sampling materials, included rat capture, rat identification methods and collection of parasites, and health and safety matters emphasized.

Prevention - Workshopped risk species, sources and pathway lists, good and bad biosecurity examples, task lists for visiting PIPA along with tasks for biosecurity officers visiting PIPA. Although field biological knowledge was limited, this session and activities resulted in better engagement than the previous workshop.

#### Afternoon activities

Port (KPA) container terminal. Two teams on mock PIPA island landing determining presence/absence of rat and ant species (several of latter species present and collected – preserved specimens were collected for identification by New Zealand specialists and a replicate sample was left with Quarantine).

Plastic “invasive animal” exercise produced surprisingly little response from participants.

The group was joined by a KPA supervisor who indicated that it would be possible to inform Quarantine and others in advance of vessel departures.

Mynas – relict nests of mynas apparently not being used now.



Carrying out surveillance at the Betio Port during a Phoenix Islands Protected Area Biosecurity Training Workshop run by the Pacific Invasives Initiative in Tarawa, Kiribati. (Photo: Rikamati Naare)

#### Debrief

Teaaro – happy with rat control and ant detection and found the practical interesting; wants more training on ant ID and eradication/control

Frank – noted it was “about time to understand impacts of local ships” and the need to protect values of PIPA, the values of which he understands more now; Need training for ant ID and control. Need more tools and protective gear.

Rui – good straightforward presentations using pictures not words

Someone - excellent presentation

Nikarawa – the three Health staff were in consensus in now understanding the three pillars of biosecurity – prevention, surveillance, response. Need more training for ants etc on ships and how to identify ants. Need more understanding of rat habitat, need more training in equipment/tools’ understand the essential need for boarding parties on domestic ships via PIPA/CXI.

Tekimwau – appreciated learning field work techniques and seeing the diagrams and pictures - “Feel I can now help at PIPA/CXI with this grounding”.

Also general discussion about following-up with PII or Ray at any time and where to get other specialist technical help.

Secretary Manikaoti thanked the training team at close of the training.



Identifying ant species caught during practical exercises at a Phoenix Islands Protected Area Biosecurity Training Workshop run by the Pacific Invasives Initiative in Tarawa, Kiribati.  
(Photo: Bill Nagle)

### **Sustainability workshop with senior MELAD/PIPA staff; 8 June**

The planned managerial discussion on an integrated approach to improving and sustaining biosecurity work for the PIPA could not be held to an unfortunate change in personal circumstances.

## **Development of management options for the myna population at Betio Port; 6, 8-10 June.**

- Mynas were first reported from Kiribati in 2003. Information on species and number since then has been irregular and uncertain.
- An opportunistic observation of two common mynas on Wednesday (06/06/12) was followed by a field instruction trip with four MELAD staff and the training team on Saturday (09/06/12) from 0600h to 0730h. The group split into two teams and up to 10 mynas (both common and jungle) were seen and repeat surveys later that day and on 10/06/12 were completed. A data sheet was developed with MELAD staff for recording further observations.
- A participant in the training visited the training team on Sunday afternoon to report that he had observed myna activity on a family breadfruit tree. He provided photographs of a breadfruit eaten by mynas.



Damage to a breadfruit at a site on Betio Island, Tarawa, Kiribati, where mynas were observed departing. (Photo: Rikamati Naare)

### **Conclusions:**

- Both training courses were well received by all participants. The different emphasis of each course led to discussions on many different biosecurity issues and questions.
- Managerial input would have helped to clarify some of the uncertainties around legislation, roles, funding, and opportunities for cooperation and cost-saving.
- These workshops showed the need for further training in several areas ranging from: equipment care and simple ecology; through to advanced surveillance techniques and IAS management; and including identifying and addressing invasion pathways; and focusing the searches of boarding parties on invasive species.

- In particular, several participants asked for training in rodent and ant identification and prevention/management on vessels (the relocation of staff and buildings has resulted in loss of material from the PIAS training conducted in 2005).
- Tools of the trade were not always available at agencies in Tarawa, e.g. discontinuous availability of rodent bait and traps, insecticides, etc.
- There is a need for bait and bait stations to be always on hand as biosecurity must be a continuous process from preparation for sailing, loading of passengers and cargo, throughout the journey and on arrival at transit and destination ports.
- The workshop identified an issue relating to the need for better communication between relevant divisions and a desire by all parties concerned to rectify this situation. To act efficiently in their roles and responsibilities, Quarantine must be made aware of domestic vessels departing to the PIPA and Line in sufficient time for biosecurity checks of the vessel, passengers and cargo.
- Fisheries observers are well-placed to record and report biosecurity issues on the vessels they work on.
- Illustrated manuals for identification and management of invasive species (rodents and ants in particular) should be sourced or prepared for future training.
- Rikamati Naare (Broadcasting & Publications Authority) proved an enthusiastic advocate for biosecurity and could be asked to get the message out to the community via radio.



Unloading cargo at Betio Port, Tarawa, Kiribati. No obvious biosecurity activities were in place and debris left on the wharf provided a food source for invasive species. (Photo: Ray Pierce)

## **Recommendations:**

- Copies, either paper or digital, of technical information such as the Biosecurity Guidelines for the Phoenix Islands Protected Area (PIPA) (Pierce, 2011), guidelines for identifying species, emergency response plans, etc., should be readily available to all staff as reference material.
- All staff and agencies with a biosecurity responsibility should be familiar with the Biosecurity Guidelines for the Phoenix Islands Protected Area (PIPA).
- The PIPA Biosecurity Committee needs to be formalised and a process for screening applications for potential visits developed and implemented. Applications must be submitted three months prior to sailing to allow for screening of the application and planning for a Biosecurity Officer to accompany all visits to PIPA.
- A similar process (i.e. Biosecurity Committee) should be set up for other Kiribati island groups including the Southern Line Islands.
- The location of biosecurity staff at Kanton for the PIPA is urgent.
- Further training is needed in ant identification and control and this should be combined with a comprehensive baseline survey of ants and other invertebrates of Betio Port and other potential invasion points at Tarawa and Kiritimati (see Mattson, 2007).
- This biosecurity training course urgently needs to be delivered on Kiritimati as described in Pierce *et al.* 2012.
- Training should include care and use of equipment, including traps, bait and other technical equipment.
- There needs to be a regular (at least every second year) supply of rodent bait from New Zealand to ensure that vessels travelling through the PIPA and Line are treated for rodents.
- Annual budgets should include amounts for replenishment of the tools of the trade necessary for effective biosecurity.
- Quarantine staff appear to be extremely busy with current duties. More staff are necessary to provide effective protection for the PIPA
- In many cases it will be possible to pass the costs of biosecurity on to users of the PIPA (as is currently the case with research/management/tourism visits) including staff time and overheads.
- A system for Fisheries observers to record and report the ports of call and their observations on IAS on vessels needs to be developed.
- SPC should be approached in relation to use of their database to assist with biosecurity for PIPA.
- The data sheet developed during the myna surveillance should be used to document observations on a weekly basis.
- Information on feeding and nesting sites must be part of the myna surveillance data to help in development of an eradication plan.

## **References:**

- Lester Mattson. 2007. Pacific Island Ant Survey Report, South Tarawa Seaport, Kiribati, 4-5 December.ASURE Quality Limited.
- Ray Pierce. 2011. Conservation International Pacific Islands Program. Biodiversity Conservation Lessons Learned Technical Series 8: Biosecurity Guidelines for the Phoenix Islands Protected Area, Kiribati. Conservation International, Apia, Samoa.
- Ray Pierce, Ross Atkinson and Eric VanderWerf. 2012. Technical Support and Capacity Building for the Wildlife Conservation Unit and Quarantine at Kiritimati, Kiribati, June 2012, Report No. 5. Eco Oceania Pty Ltd report for Government of Kiribati, NZ Department of Conservation, NZMFAT and SPREP.

**APPENDIX 1: Workshop timetable  
(modified daily to accommodate participant work clashes).**

Mon 4 Jun	am/pm	Arrival TRW 1130h Arrange logistics at Mary's Motel	Mary's Motel catering, vehicles, boats, field visits, equipment
Tue 5 Jun	am/pm	Fisheries and Police, Domestic vessels captains - Introductions, context, PIPA values, biosecurity (threats, pathway plans* (emphasis on vessels)	Mary's Motel Ppt Practical
Wed 6 Jun	am/pm	Use of traps, baits, tracking tunnels Sampling (rodents, invertebrates) Review, evaluation, summary and wrap-up	Practical Vessel/port visit
Thu 7 Jun	am /pm	Quarantine, ECD, Health - Introductions, context, PIPA values, biosecurity (threats, pathway plans* (emphasis on vessels))	Mary's or KPT Ppt Practical
Fri 8 Jun	am/pm	Use of traps, baits, tracking tunnels Sampling (rodents, invertebrates) Review, evaluation, summary and wrap-up Senior staff - additional planning matters Sustainability, Final discussions	Ppt Practical Vessel/port visit ECD/PIPA
Sat 9 Jun		Mynas at Betio	To be confirmed
Sun 10 Jun		Mynas at Betio	
Mon 11 Jun	am	Depart for NAN 0900h	

\*point of intervention is at point of permitting (home port?)

**APPENDIX 2: Names of staff attending**

First name	Last name	Designation	Ministry/Agency	Contact details
<b>Workshop 1: 5-6 June</b>				
loreba	Temori	Fisheries Observer	MFMRD	<a href="mailto:iorebatemori@ymail.com">iorebatemori@ymail.com</a>
Tekiru	Ringa	Observer Coordinator	MFMRD	<a href="mailto:atkiri@gmail.com">atkiri@gmail.com</a>
Regina	Ratitaaku	Environment Inspector	MELAD/ECD	<a href="mailto:reginatabuki@gmail.com">reginatabuki@gmail.com</a>
Turang	Terea	Biodiversity & Conservation Officer	ECD/MELAD	<a href="mailto:turangf@environment.gov.ki">turangf@environment.gov.ki</a>
Uriano	Tekautu	Fisheries Observer	MFMRD	<a href="mailto:tonikitakato@gmail.com">tonikitakato@gmail.com</a>
Awia	Takirara	Fisheries Observer	MFMRD	<a href="mailto:atakirarara@gmail.com">atakirarara@gmail.com</a>
Rikamati	Naare	Reporter	Broadcasting & Publications Authority	<a href="mailto:Ril.naare@gmail.com">Ril.naare@gmail.com</a>
John	Mote	Police Patrol Boat	Kiribati Police Services	
Karea	Tio	Police Patrol Boat	Kiribati Police Services	<a href="mailto:Karea132@gmail.com">Karea132@gmail.com</a>
Tukabu	Teroroko	Director	PIPA	
Teaaro	Otiuea	Head of Plant Protection & Quarantine Section	ALD/MELAD	<a href="mailto:tatemairi@gmail.com">tatemairi@gmail.com</a>
Manikaoti	Timeon	Secretary	MELAD	

First name	Last name	Designation	Ministry/Agency	Contact details
<b>Workshop 2: 7-8 June</b>				
Taremon	Korere	Fisheries Officer	MFMRD	<a href="mailto:Taremon.korere@mfmrd.gov.ki">Taremon.korere@mfmrd.gov.ki</a> Ph 21267
Burangue	Tabeibeti	Biosecurity Quarantine Officer	MELAD	<a href="mailto:Abau.onotoa@gmail.com">Abau.onotoa@gmail.com</a>
Nikarawa	Kariua	Assistant Health Inspector	Environmental Health/MHMS	<a href="mailto:Nika.baueri@gmail.com">Nika.baueri@gmail.com</a>
Teretia	Teitei	Assistant Health Inspector	Environmental Health/MHMS	<a href="mailto:teletelee@gmail.com">teletelee@gmail.com</a> Ph 96777
Tabomoa	Tinte	Assistant Health Inspector	Environmental Health/MHMS	<a href="mailto:mstabwai@gmail.com">mstabwai@gmail.com</a>
Rui	Tibau	Animal & Health Quarantine Inspector	MELAD	Office ph 26293, 28108 Ph 63363
Neeti	Kiritaake	Biosecurity Inspector	MELAD	<a href="mailto:S99002236@gmail.com">S99002236@gmail.com</a>
Tekimwau	Otiawa	Ag Assistant Biodiversity & Conservation Officer	ECD/MELAD	<a href="mailto:tekimaua@environment.gov.ki">tekimaua@environment.gov.ki</a>
Tamana	Natanaera	Operations Manager	Kiribati Shipping Services Ltd	
Tenanoraoi		Supervisor at Tarawa Radio (Marine Guard)	Marine Division, Ministry of Commerce, Tourism, Transport, Development	



Approaching Tarawa. (Photo: Bill Nagle)