

APPENDIX 2

Rainwater Harvesting Records

Appendix 2.1 Abaiang Maneaba

2009/10

Surveyed by	JS + MM
Date	2/12/09
Location	Betio
Building	Abaiang Maneaba
GPS Coordinates	N 01° 21' 07.5" E 172° 56' 27.3"

Demand

Number of users	Daily usage litres	Comments
30 - 40	40	
Potential for community reserve supply		Yes/no yes

Current Practise (Conduct RWH Potential Survey if no current practise)

Catchment (roof)							
Area Length/width	Material	Condition Poor/adequate/good	Debris Yes/no	Overhanging Vegetation Yes/no	Comments		
25 x 19.5	GI sheet	Good	no	no			
Collection mechanism (gutter)							
% Gutted	Material	Condition Poor/adequate/good	Size mm ²	Slope Yes/no	Debris Yes/no	Screen Yes/no	Comments
50	Bent GI sheet	Poor	125 x 100	yes	no	no	Very poor
Collection mechanism (downpipe)							
Diameter mm	Material	Condition Poor/adequate/good	Frequency Meters between pipe	First Flush Yes/no	Comments		
Extended gutter	GI	Poor	Total, 2	No			
Storage (tanks)							
Volume Litres	Material	Condition Poor/adequate/good	Inlet Elevation m	Base Yes/no	% full	Clean inside? Yes/no	Comments
10 000	Poly	Adequate	1.6	yes	100	yes	Just rained a lot
Supply							
Reticulated Yes/no	Outlet type	Condition Poor/adequate/good	Outlet elevation m	Treatment? Yes/no	Sample Yes/no	Comments	
No	none	Use bucket	n/a	no	no		

RWH Potential

Roof area m2	25 x 19.5 = 487.5
Roof material	GI
Roof condition Potential for upgrade?	Good
Pitch of roof approximate	50°
Facia boards yes/no	Yes
Height to facia m	1.85
Height to roof m	2
Roof protrusion from facia m	50mm
Gutter length required m	All sides
Suitable, flat location for tank yes/no	Yes
Overhanging vegetation yes/no	No
Is there someone who can take responsibility for operation and maintenance?	
yes	

Additional comments:

Concrete base of maneaba extends 1m from roof edge. Needs consideration in downpipe design. Although poorly managed the RWH system seems ok and is currently full. Makeshift repairs are made when required.



Galvanised steel guttering, steel strap supports, only 50% of the potential catchment guttered. Fall on the gutter can be observed.



Hanging downpipe at risk of failure. Good fall on gutter. Gutter capacity insufficient considering single downpipe

Appendix 2.2 Abemama Maneaba

2009/10

Surveyed by	JS + MM
Date	27/11/09
Location	Temaiku
Building	Abemama Maneaba
GPS Coordinates	N 01° 21' 43.7" E 173° 08' 50.6"

Demand

Number of users	Daily usage litres	Comments
50- 80	20	Use rain water. When it runs out order PUB truck (3 times a month in a drought)
Potential for community reserve supply Yes/no		No – if all maneaba farm overflows together, yes

Current Practise (Conduct RWH Potential Survey if no current practise)

Catchment (roof)							
Area Length/width	Material	Condition Poor/adequate/good	Debris Yes/no	Overhanging Vegetation Yes/no	Comments		
Currently using ½ of roof catchment (good) for RWH. Split PVC pipe for gutter (good). 1 no 5000 L tank on a base. VERY LIMITED CURRENT PRACTISE. STORE PUB WATER IN TANK WHEN RAINWATER RUNS OUT							
Collection mechanism (gutter)							
% Gutted	Material	Condition Poor/adequate/good	Size mm ²	Slope Yes/no	Debris Yes/no	Screen Yes/no	Comments
50	SPLIT PVC	GOOD		NO	NO	NO	
Collection mechanism (downpipe)							
Diameter mm	Material	Condition Poor/adequate/good	Frequency Meters between pipe	First Flush Yes/no	Comments		
	PVC	HANGING. POOR CONNECTIONS					
Storage (tanks)							
Volume Litres	Material	Condition Poor/adequate/good	Inlet Elevation m	Base Yes/no	% full	Clean inside? Yes/no	Comments
5000	POLY						
Supply							
Reticulated Yes/no	Outlet type	Condition Poor/adequate/good	Outlet elevation m	Treatment? Yes/no	Sample Yes/no	Comments	
NO	TAP	ADEQUATE	0.1	NO	NO		

RWH Potential

Roof area m2	22 x 13.9 = 306
Roof material	GI
Roof condition Potential for upgrade?	Good
Pitch of roof approximate	35
Facia boards yes/no	Yes
Height to facia m	1.7
Height to roof m	1.9
Roof protrusion from facia m	100
Gutter length required m	All
Suitable, flat location for tank yes/no	Yes
Overhanging vegetation yes/no	no
Is there someone who can take responsibility for operation and maintenance? Maneaba secretary	

Additional comments:

Don't block off air through maneaba with tanks. An area to the north-west for 3 tanks.
An area for 2 tanks next to toilet – already has base.



Split PVC piping used as guttering



Guttering along both side of property leading to PVC down pipe into water tank. Roof in good condition, no leaves/debris – no need for first flush (?)

Appendix 2.3 Abaonamo PS.1

2009/10

Surveyed by	JS + MM
Date	01/12/09
Location	Teoreriki - Abaunamo PS
Building	1. teachers room
GPS Coordinates	N 01° 19' 57.2" E 173° 00' 43.8"

Demand

Number of users	Daily usage Litres	Comments
500	0.5 (drinking)	Can't boil water for all children. Currently drinking water from RWH. Well water for toilet and garden.
Potential for community reserve supply		Yes/no yes

Current Practise (Conduct RWH Potential Survey if no current practise)

Catchment (roof)							
Area Length/width	Material	Condition Poor/adequate/good	Debris Yes/no	Overhanging Vegetation Yes/no		Comments	
15.8 x 9.1 = 143.78	GI	Adequate. Some corrosion	no	No			
Collection mechanism (gutter)							
% Guttered	Material	Condition Poor/adequate/good	Size mm ²	Slope Yes/no	Debris Yes/no	Screen Yes/no	Comments
50	Split PVC	adequate	100m m	no	yes	No	
Collection mechanism (downpipe)							
Diameter mm	Material	Condition Poor/adequate/good	Frequency Meters between pipe		First Flush Yes/no		Comments
100	PVC	Adequate. Poorly attached	Only 1 pipe		No		
Storage (tanks)							
Volume Litres	Material	Condition Poor/adequate/good	Inlet Elevation m	Base Yes/no	% full	Clean inside? Yes/no	Comments
6000	poly	Poor. Due to tank height and poor foundation it is out of shape	2.2	Yes. Has settled	100	?	
Supply							
Reticulated Yes/no	Outlet type	Condition Poor/adequate/good	Outlet elevation M	Treatment? Yes/no	Sample Yes/no	Comments	
No	tap	good	0.25	no	No		

RWH Potential

Roof area m2	144
Roof material	GI
Roof condition Potential for upgrade?	Adequate, could replace some sheets
Pitch of roof approximate	10
Facia boards yes/no	Yes, poor – some need replacing
Height to fascia m	2.2
Height to roof m	2.4
Roof protrusion from fascia m	0.02
Fascia protrusion from wall m	800-900mm
Gutter length required m	31.6
Suitable, flat location for tank yes/no	Yes
Overhanging vegetation yes/no	Tall trees around – not overhanging
Is there someone who can take responsibility for operation and maintenance?	yes

Additional comments:



Deformity of water tank



Good roofing and guttering along entire side of houses

Appendix 2.4 Abaonamo PS.4

2009/10

Surveyed by	JS + MM
Date	01/12/09
Location	Teoreriki - Abaunamo PS
Building	4.
GPS Coordinates	N 01° 19' 57.2" E 173° 00' 43.8"

Demand

Number of users	Daily usage Litres	Comments
500	0.5 (drinking)	Can't boil water for all children. Currently drinking water from RWH. Well water for toilet and garden.
Potential for community reserve supply		Yes/no yes

Current Practise (Conduct RWH Potential Survey if no current practise)

Catchment (roof)							
Area Length/width	Material	Condition Poor/adequate/good	Debris Yes/no	Overhanging Vegetation Yes/no	Comments		
53.4 x 9.8 = 523	GI	Adequate. Some corrosion	no	No			
Collection mechanism (gutter)							
% Guttered	Material	Condition Poor/adequate/good	Size mm ²	Slope Yes/no	Debris Yes/no	Screen Yes/no	Comments
50	Split PVC	adequate	100m m	no	yes	No	
Collection mechanism (downpipe)							
Diameter mm	Material	Condition Poor/adequate/good	Frequency Meters between pipe	First Flush Yes/no	Comments		
100	PVC	Adequate. Poorly attached	Only 1 pipe	No			
Storage (tanks)							
Volume Litres	Material	Condition Poor/adequate/good	Inlet Elevation m	Base Yes/no	% full	Clean inside? Yes/no	Comments
6000	poly	Poor. Due to tank height and poor foundation it is out of shape	2.2	Yes. Has settled	100	?	
Supply							
Reticulated Yes/no	Outlet type	Condition Poor/adequate/good	Outlet elevation M	Treatment? Yes/no	Sample Yes/no	Comments	
No	tap	good	0.25	no	No		

RWH Potential

Roof area m ²	53.4 x 9.8 = 523
Roof material	GI
Roof condition Potential for upgrade?	Adequate, could replace some sheets
Pitch of roof approximate	10
Facia boards yes/no	Yes, poor – circa 50% need replacing
Height to fascia m	2.35
Height to roof m	2.5
Roof protrusion from fascia m	Various, 0 – 0.3m (roof needs trimming and extending!)
Fascia protrusion from wall m	800-900mm
Gutter length required m	106.8. Would need a lot of work fitting it as roof is uneven
Suitable, flat location for tank yes/no	Yes
Overhanging vegetation yes/no	yes
Is there someone who can take responsibility for operation and maintenance?	yes

Additional comments:

Fascia is rotten in some places as it protrudes from under roof and water drips onto it. The roof beams are various lengths, so fitting good new fascia would be a task and gutters would have to be fitted at different lengths along the fascia. A continuous gutter could not be fitted to either side.

Didn't survey buildings 2 and 3, roofs too poor.



clear, undamaged roof across building 4



Building 4 – potential for rainwater harvesting

Appendix 2.5 Dain Nippon PS.1

2009/10

Surveyed by	JS + MM
Date	27/10/09
Location	Dai Nippon PS, Betio
Building	1 (new)
GPS Coordinates	N 01° 21' 04.4" E 172° 56' 43.0"

Demand

Number of users	Daily usage litres	Comments
620	0.5	
Potential for community reserve supply		Yes/no yes

Current Practise (Conduct RWH Potential Survey if no current practise)

Catchment (roof)							
Area Length/width	Material	Condition Poor/adequate/good	Debris Yes/no	Overhanging Vegetation Yes/no	Comments		

Collection mechanism (gutter)							
% Guttered	Material	Condition Poor/adequate/good	Size mm ²	Slope Yes/no	Debris Yes/no	Screen Yes/no	Comments

Collection mechanism (downpipe)					
Diameter mm	Material	Condition Poor/adequate/good	Frequency Meters between pipe	First Flush Yes/no	Comments

Storage (tanks)							
Volume Litres	Material	Condition Poor/adequate/good	Inlet Elevation m	Base Yes/no	% full	Clean inside? Yes/no	Comments

Supply						
Reticulated Yes/no	Outlet type	Condition Poor/adequate/good	Outlet elevation m	Treatment? Yes/no	Sample Yes/no	Comments

RWH Potential

Roof area m2	33 x 9.2 = 304
Roof material	GI
Roof condition Potential for upgrade?	Good, brand new
Pitch of roof approximate	25°
Facia boards yes/no	Yes
Height to facia m	2.15
Height to roof m	2.3
Roof protrusion from facia m	30mm
Fascia protrusion from wall m	0.8-0.9
Gutter length required m	66
Suitable, flat location for tank yes/no	Yes at back
Overhanging vegetation yes/no	Some, easily trimmed
Is there someone who can take responsibility for operation and maintenance?	yes

Additional comments:

Could locate an underground communal reserve tank in the grounds, space near building
1. 6 x 4 m for community reserve supply(?)



Excellent quality roof but no guttering

Appendix 2.6 Dai Nippon PS.2

2009/10

Surveyed by	JS + MM
Date	27/10/09
Location	Dai Nippon PS, Betio
Building	2 (east)
GPS Coordinates	N 01° 21' 04.4" E 172° 56' 43.0"

Demand

Number of users	Daily usage Litres	Comments
620	0.5	
Potential for community reserve supply		Yes/no yes

Current Practise (Conduct RWH Potential Survey if no current practise)

Catchment (roof)							
Area Length/width	Material	Condition Poor/adequate/good	Debris Yes/no	Overhanging Vegetation Yes/no		Comments	

Collection mechanism (gutter)							
% Guttered	Material	Condition Poor/adequate/good	Size mm ²	Slope Yes/no	Debris Yes/no	Screen Yes/no	Comments

Collection mechanism (downpipe)					
Diameter mm	Material	Condition Poor/adequate/good	Frequency Meters between pipe	First Flush Yes/no	Comments

Storage (tanks)							
Volume Litres	Material	Condition Poor/adequate/good	Inlet Elevation m	Base Yes/no	% full	Clean inside? Yes/no	Comments

Supply						
Reticulated Yes/no	Outlet type	Condition Poor/adequate/good	Outlet elevation m	Treatment? Yes/no	Sample Yes/no	Comments

RWH Potential

Roof area m2	33 x 9.2 = 304
Roof material	GI
Roof condition Potential for upgrade?	Adequate
Pitch of roof approximate	10°
Facia boards yes/no	Yes - some rotten 10%
Height to facia m	2.3
Height to roof m	2.5
Roof protrusion from facia m	30mm
Fascia protrusion from wall m	0.8-0.9
Gutter length required m	66
Suitable, flat location for tank yes/no	Yes at back
Overhanging vegetation yes/no	Some, easily trimmed
Is there someone who can take responsibility for operation and maintenance?	yes

Photos:



No guttering along roofs on either property

Appendix 2.7 Catholic Maneaba Betio

2009/10

Surveyed by	JS + MM
Date	2/12/09
Location	Kaotikaeka
Building	Catholic Maneaba
GPS Coordinates	N 01° 21' 24.5" E 172° 55' 29.0"

Demand

Number of users	Daily usage litres	Comments
20-30 varies greatly	5	Just drinking and some cooking. Have well, should use big RW tanks for all other water needs.
Potential for community reserve supply		Yes/no yes

Current Practise (Conduct RWH Potential Survey if no current practise)

Catchment (roof)							
Area Length/width	Material	Condition Poor/adequate/good	Debris Yes/no	Overhanging Vegetation Yes/no		Comments	
Approx: 1000m ²	GI sheet	Adequate	No	No – too high		These values are for the church – there is no RWH on maneaba.	
Collection mechanism (gutter)							
% Guttered	Material	Condition Poor/adequate/good	Size mm ²	Slope Yes/no	Debris Yes/no	Screen Yes/no	Comments
100	GI	Good	150 x 100	Yes	?	No	Very high roof good catchment
Collection mechanism (downpipe)							
Diameter mm	Material	Condition Poor/adequate/good	Frequency Meters between pipe		First Flush Yes/no		Comments
100	GI	Adequate	Varies. c 10m		No		Underground flow to 2 tanks 7 x 7 x 2
Storage (tanks)							
Volume Litres	Material	Condition Poor/adequate/good	Inlet Elevation m	Base Yes/no	% full	Clean inside? Yes/no	Comments
c 100m ³ each so 200 000	Half buried block and cement	adequate	1.1	n/a	100 Just rain-ed	?	Tanks have sheet metal roof and there are plenty of openings for rats and other contamination.
Supply							
Reticulated Yes/no	Outlet type	Condition Poor/adequate/good	Outlet elevation m	Treatment? Yes/no	Sample Yes/no	Comments	
yes	Pumped to tap	adequate	?	no	no	Water used by wider community in drought. Excellent.	

RWH Potential

Roof area m2	24.75 x 26.5 = 653
Roof material	GI sheet
Roof condition Potential for upgrade?	Adequate
Pitch of roof approximate	Average 20°
Facia boards yes/no	No
Height to facia m	2
Height to roof m	2.2
Roof protrusion from facia m	Up to 30cm, needs trimming
Gutter length required m	24.75 x 2 = 49.5
Suitable, flat location for tank yes/no	Yes plenty
Overhanging vegetation yes/no	Some could be trimmed
Is there someone who can take responsibility for operation and maintenance?	
Yes – could be done communally	

Additional comments:

Front half suitable. At the back there are lots of temporary extensions to the maneaba, which are required and would interfere with gutter system. They are required so it is likely that they would be reinstated after any work. Suggest front is only suitable. So catchment 326 and gutter required 24.75.

Run overflows to the reserve tanks as they are already used as a reserve supply for the community in drought which is excellent. Distance to reserve tanks, *circa* 40m.



Good conditioned roofing, however no guttering along entire length of property

Appendix 2.8 War Memorial Primary School Maneaba

2009/10

Surveyed by	JS + MM
Date	27/11/09
Location	War memorial
Building	maneaba
GPS Coordinates	N 01° 21' 04.4" E 172° 56' 43.0"

Demand

Number of users	Daily usage Litres	Comments
850	0.5	
Potential for community reserve supply		Yes/no yes

Current Practise (Conduct RWH Potential Survey if no current practise)

Catchment (roof)							
Area Length/width	Material	Condition Poor/adequate/good	Debris Yes/no	Overhanging Vegetation Yes/no	Comments		
They have 1 6kl tank currently and a large maneaba that is in good condition and not guttered.							
Collection mechanism (gutter)							
% Guttered	Material	Condition Poor/adequate/good	Size mm ²	Slope Yes/no	Debris Yes/no	Screen Yes/no	Comments
Collection mechanism (downpipe)							
Diameter mm	Material	Condition Poor/adequate/good	Frequency Meters between pipe	First Flush Yes/no	Comments		
Storage (tanks)							
Volume Litres	Material	Condition Poor/adequate/good	Inlet Elevation m	Base Yes/no	% full	Clean inside? Yes/no	Comments
Supply							
Reticulated Yes/no	Outlet type	Condition Poor/adequate/good	Outlet elevation m	Treatment? Yes/no	Sample Yes/no	Comments	

RWH Potential

Roof area m2	27.5 x 14.2 = 390.5
Roof material	GI
Roof condition Potential for upgrade?	Good
Pitch of roof approximate	35
Facia boards yes/no	No
Height to facia m	-
Height to roof m	2.05
Roof protrusion from facia m	-
Fascia protrusion from wall m	-
Gutter length required m	all
Suitable, flat location for tank yes/no	yes
Overhanging vegetation yes/no	no
Is there someone who can take responsibility for operation and maintenance?	yes

Photos:



No guttering present around entire building



Again no guttering to catch rainwater

Appendix 2.9 KHC Houses, Bairiki

2009/10

Surveyed by	JS + MM
Date	27/10/09
Location	Bairiki
Building	KHC houses
GPS Coordinates	N 01° 19' 41.7" E 172° 58' 27.5"

Demand

Number of users	Daily usage litres	Comments
7	40	or drinking water 4 litres x 7 = 28
Potential for community reserve supply		Yes/no no

Current Practise (Conduct RWH Potential Survey if no current practise)

Catchment (roof)							
Area Length/width	Material	Condition Poor/adequate/good	Debris Yes/no	Overhanging Vegetation Yes/no	Comments		

Collection mechanism (gutter)							
% Guttered	Material	Condition Poor/adequate/good	Size mm ²	Slope Yes/no	Debris Yes/no	Screen Yes/no	Comments

Collection mechanism (downpipe)					
Diameter mm	Material	Condition Poor/adequate/good	Frequency Meters between pipe	First Flush Yes/no	Comments

Storage (tanks)							
Volume Litres	Material	Condition Poor/adequate/good	Inlet Elevation m	Base Yes/no	% full	Clean inside? Yes/no	Comments

Supply						
Reticulated Yes/no	Outlet type	Condition Poor/adequate/good	Outlet elevation m	Treatment? Yes/no	Sample Yes/no	Comments

RWH Potential

Roof area m ²	(5.5 x 8.6) + (4.2 x 8.3) = 82
Roof material	GI sheet
Roof condition Potential for upgrade?	Adequate
Pitch of roof approximate	20
Facia boards yes/no	Yes
Height to facia m	2.1 & 2.25
Height to roof m	2.25 & 2.4
Roof protrusion from facia m	50mm
Gutter length required m	8.6 x 2 = 17.2
Suitable, flat location for tank yes/no	yes
Overhanging vegetation yes/no	Yes – need screens?
Is there someone who can take responsibility for operation and maintenance? household	

photos:

Additional comments:

2 houses the same in this location 10m apart. Route overflows to well in the centre 7m from proposed tank locations.



Good quality roofing but no guttering

Appendix 2.10 KPC Maneaba Temaiku

2009/10

Surveyed by	JS + MM
Date	27/11/09
Location	Temaiku
Building	KPC maneaba
GPS Coordinates	N 01° 21' 34.3" E 173° 09' 22.8"

Demand

Number of users	Daily usage litres	Comments
50	50 (drinking - 4)	People only sleep there at festival times. About 50. Currently use RW from church for drinking and wells for everything else.
Potential for community reserve supply Yes/no		Yes KPC village 120 people

Current Practise (Conduct RWH Potential Survey if no current practise)

Catchment (roof)							
Area Length/width	Material	Condition Poor/adequate/good	Debris Yes/no	Overhanging Vegetation Yes/no	Comments <u>On church</u>		
430m2	GI	good	no	No	No RWH on Maneaba		
Collection mechanism (gutter)							
% Gutted	Material	Condition Poor/adequate/good	Size mm ²	Slope Yes/no	Debris Yes/no	Screen Yes/no	Comments
100	GI	good	125 x 100	no	no	No	
Collection mechanism (downpipe)							
Diameter mm	Material	Condition Poor/adequate/good	Frequency Meters between pipe	First Flush Yes/no	Comments		
90mm	PVC	good	Only 2 pipes	No			
Storage (tanks)							
Volume Litres	Material	Condition Poor/adequate/good	Inlet Elevation m	Base Yes/no	% full	Clean inside? Yes/no	Comments
40 000	Poly x 8	good	3m	yes	30	?	
Supply							
Reticulated Yes/no	Outlet type	Condition Poor/adequate/good	Outlet elevation m	Treatment? Yes/no	Sample Yes/no	Comments	
no	Tap.	Outlets leaking!	1	no	no	All tanks connected at base with valves in between.	

RWH Potential (MANEABA)

Roof area m2	23.6 X 16.4 = 387
Roof material	GI
Roof condition Potential for upgrade?	Adequate – some debris
Pitch of roof approximate	45
Fascia boards yes/no	No – might be a challenge to fit fascia
Height to fascia m	1.6
Height to roof m	1.7
Roof protrusion from fascia m	0.1 – 0.2 m
Gutter length required m	All sides
Suitable, flat location for tank yes/no	Yes at back where temporary structure is (2m to roof)
Overhanging vegetation yes/no	Yes – easily trimmed
Is there someone who can take responsibility for operation and maintenance? Yes community maintenance project.	

Photos:

Additional comments:

Might be hard to fit fascia. Roof beams only have 2 inch x 2 inch area for attaching.

Already have RWH on church but large village population use the water. Limited PUB supply in this area.



Appendix 2.11 Gascony Maneaba, Bikenibeu

2009/10

Surveyed by	JS + MM
Date	27/11/09
Location	Nawerenene
Building	Gascony Maneaba
GPS Coordinates	N 01° 21' 44.1" E 173° 08' 37.9"

Demand

Number of users	Daily usage litres	Comments
50- 70	40	Use well water for a lot. And PUB for drinking when dry. Have RWH on church next door.
Potential for community reserve supply		Yes/no no

Current Practise (Conduct RWH Potential Survey if no current practise)

Catchment (roof)							
Area Length/width	Material	Condition Poor/adequate/good	Debris Yes/no	Overhanging Vegetation Yes/no	Comments		

Collection mechanism (gutter)							
% Guttered	Material	Condition Poor/adequate/good	Size mm ²	Slope Yes/no	Debris Yes/no	Screen Yes/no	Comments

Collection mechanism (downpipe)					
Diameter mm	Material	Condition Poor/adequate/good	Frequency Meters between pipe	First Flush Yes/no	Comments

Storage (tanks)							
Volume Litres	Material	Condition Poor/adequate/good	Inlet Elevation m	Base Yes/no	% full	Clean inside? Yes/no	Comments

Supply						
Reticulated Yes/no	Outlet type	Condition Poor/adequate/good	Outlet elevation m	Treatment? Yes/no	Sample Yes/no	Comments

RWH Potential

Roof area m2	16 x 20.1 = 321.6
Roof material	GI
Roof condition Potential for upgrade?	Adequate, needs cleaning under trees
Pitch of roof approximate	40
Facia boards yes/no	Yes but need replacing, very uneven.
Height to facia m	1.1
Height to roof m	1.3
Roof protrusion from facia m	50mm
Gutter length required m	All
Suitable, flat location for tank yes/no	Yes, area owned by catholics
Overhanging vegetation yes/no	Yes, easy to trim
Is there someone who can take responsibility for operation and maintenance?	
Yes community	

Photos:

Additional comments:

Low roof (1.3m). Areas to the north (10m) with lower elevation, could locate the tanks here. Or use squat tanks. Also, a well for overflows to the north.



No guttering. Low roof. Fascia board in reasonable condition. Could use squat tanks?



Appendix 2.12 Clinic Bairiki

2009/10

Surveyed by	JS + MM
Date	28/10/09
Location	Bairiki, next to TSKL
Building	Clinic
GPS Coordinates	?

Demand

Number of users	Daily usage litres	Comments
	Total 100 L/d	Use pumped tap from well for washing things and some RW
Potential for community reserve supply		Yes/no no

Current Practise (Conduct RWH Potential Survey if no current practise)

Catchment (roof)							
Area Length/width	Material	Condition Poor/adequate/good	Debris Yes/no	Overhanging Vegetation Yes/no		Comments	
6.5 x 5	GI	good	yes	Yes		Lots of debris on roof and in gutter	
Collection mechanism (gutter)							
% Gutted	Material	Condition Poor/adequate/good	Size mm ²	Slope Yes/no	Debris Yes/no	Screen Yes/no	Comments
90	Split PVC		100m m	no	yes	No	
Collection mechanism (downpipe)							
Diameter mm	Material	Condition Poor/adequate/good	Frequency Meters between pipe		First Flush Yes/no		Comments
pvc		good	1 pipe		No		
Storage (tanks)							
Volume Litres	Material	Condition Poor/adequate/good	Inlet Elevation m	Base Yes/no	% full	Clean inside? Yes/no	Comments
3000	poly	good	2	yes	100	no	Tank water smells. It is contaminated. They use 1000 L tank on other building. Also full, clean roof.
Supply							
Reticulated Yes/no	Outlet type	Condition Poor/adequate/good	Outlet elevation m	Treatment? Yes/no	Sample Yes/no	Comments	
no	tap	poor	1m	no	No		

RWH Potential

Roof area m2	8.75 x 10.5 = 92
Roof material	GI
Roof condition Potential for upgrade?	Adequate
Pitch of roof approximate	5
Facia boards yes/no	Yes
Height to facia m	2.4
Height to roof m	2.6
Roof protrusion from facia m	30mm
Gutter length required m	8.75
Suitable, flat location for tank yes/no	Yes – only 1 tank though
Overhanging vegetation yes/no	Yes could be trimmed
Is there someone who can take responsibility for operation and maintenance?	
yes	

Photos:

Additional comments:



Elevated water tank and down pipe

Appendix 2.13 Sports centre, Betio

2009/10

Surveyed by	JS + MM
Date	02/12/09
Location	Betio
Building	New sports centre
GPS Coordinates	?

Demand

Number of users	Daily usage litres	Comments
	500 max	As far as I can gather, only used for toilets and showers.
Potential for community reserve supply Yes/no		YES

Current Practise (Conduct RWH Potential Survey if no current practise)

Catchment (roof)							
Area Length/width	Material	Condition Poor/adequate/good	Debris Yes/no	Overhanging Vegetation Yes/no	Comments		
3300m2	GI	good	no	No			

Collection mechanism (gutter)							
% Guttered	Material	Condition Poor/adequate/good	Size mm ²	Slope Yes/no	Debris Yes/no	Screen Yes/no	Comments
100	GI	good	300 x 500	no	no	No	

Collection mechanism (downpipe)					
Diameter mm	Material	Condition Poor/adequate/good	Frequency Meters between pipe	First Flush Yes/no	Comments
Up to 250mm	metal	good	20m	No	

Storage (tanks)							
Volume Litres	Material	Condition Poor/adequate/good	Inlet Elevation m	Base Yes/no	% full	Clean inside? Yes/no	Comments
11 x 25 x (2?) = 550m3	Concrete cistern	good	0m	N/A	100 just rain	?	550 000 litres is a guess. It is likely that it is actually bigger/deeper

Supply						
Reticulated Yes/no	Outlet type	Condition Poor/adequate/good	Outlet elevation m	Treatment? Yes/no	Sample Yes/no	Comments
yes	Taps & showers	?	Header tanks used	no	no	

RWH Potential

Roof area m2	
Roof material	
Roof condition Potential for upgrade?	
Pitch of roof approximate	
Facia boards yes/no	
Height to facia m	
Height to roof m	
Roof protrusion from facia m	
Gutter length required m	
Suitable, flat location for tank yes/no	
Overhanging vegetation yes/no	
Is there someone who can take responsibility for operation and maintenance?	

Photos:

Additional comments:

Could supply significant volumes of freshwater for the population of Betio.



New building, good quality roof and guttering present. Routed to underground reinforced concrete water cistern