

Annex C

Other monitoring sites: Information sheets and graphical data summaries

AD01

ADDAX Automatic Weather Station

Bombali DistrictAutomatic weather station with
rain gauge**GPS Co-ordinates**

Location	Latitude	Longitude
Rain gauge	8.68550	-12.16804

No picture

Notes

Automatic climate station located in centre of estate.

Rain Gauge

Model	Tipping Bucket
Fencing	No data
First record date	7 February 2013

Contacts (Addax Bioenergy)

Name	Title	Telephone
Safea Mansa-Musa	Environmental Officer	078 660 455

AD02 and AD03

**ADDAX - Rokel River Upstream (AD02)
and downstream (AD03) of Addax Estate.**

Bombali District

**Manual river flow gauging
locations**

GPS Co-ordinates

Location	Latitude	Longitude
Upstream(AD02)	8.66333	-12.11628
Downstream (AD03)	8.73351	-12.31435

Notes

GPS co-ordinates provided by Addax.

No picture

Installation Details

Type	Manual – surface flows
First Record Date	April 2012

Notes:

Depth profile every 4 m

Flow measurement every 12m

Contacts (Addax Bioenergy)

Name	Title	Telephone
Safea Mansa-Musa	Environmental Officer	078 660 455

AD04**ADDAX Irrigation Block 7****Tonkolili District****Rain gauge****GPS Co-ordinates**

Location	Latitude	Longitude
Rain gauge	8.66995	-12.23121

No picture

Notes

Location is estimated – positioned in centre of irrigation block.

Rain Gauge

Model	Funnel?
Fencing	No data
First record date	

Contacts (Addax Bioenergy)

Name	Title	Telephone
Safea Mansa-Musa	Environmental Officer	078 660 455

AD05**ADDAX Irrigation Block 11****Bombali District****Rain gauge****GPS Co-ordinates**

Location	Latitude	Longitude
Rain gauge	8.70152	-12.12170

No picture

Notes

Location is estimated – positioned in centre of irrigation block.

Rain Gauge

Model	Funnel?
Fencing	No data
First record date	

Contacts (Addax Bioenergy)

Name	Title	Telephone
Safea Mansa-Musa	Environmental Officer	078 660 455

AD06**ADDAX Kontobe Site****Bombali District****Rain gauge****GPS Co-ordinates**

Location	Latitude	Longitude
Rain gauge	TBA	TBA

Notes

No picture

Rain Gauge

Model	Funnel?
Fencing	No data
First record date	

Contacts (Addax Bioenergy)

Name	Title	Telephone
Safea Mansa-Musa	Environmental Officer	078 660 455

BD01

Bumbuna Dam Site Offices

Tonkolili District

Rain gauge site

GPS Co-ordinates

Location	Latitude	Longitude
Rain gauge	9.06590	-11.73218

Notes

Automatic recording Rain gauge in Dam Site office compound.



Rain gauge site

Rain Gauge

Model	Tipping bucket
Fencing	None
First record date	Uncertain – before 2007



Chart recorder for Rain gauge



Close up of Rain gauge

Contacts (Salini – Bumbuna Dam Operators)

Name	Title	Telephone / email
David S Conteh	Civil Engineer	033 548 210 / 076 850 549 dasacone@gmail.com
Mr. Ciro	Bumbuna Dam Manager	
Mr Mengeste	Technical Manager	

BD02**Bumbuna Dam Site Weir****Tonkolili District****River flow gauging weir
on Rokel River****GPS Co-ordinates**

Location	Latitude	Longitude
Stream	9.06615	-11.72518

Notes on Water Source

4-section ogee crest weir recording flow immediately downstream of Bumbuna Dam.



Ogee crest weir and stilling well

Stilling Well

Date / Time	9/8/2013 09:00
Datum description	Manhole cover.
Datum height	At ground level.
Depth to water level	5.98 m below datum
Water elevation	159.326 m ASL

Weir Construction

Weir type	4 x 15m sections
Low crest level	159.00 m ASL
High crest level	161.25 m ASL
Depth of stilling well	6.92 m below datum
Base of stilling well	158.29 mASL

Logging Equipment Installed

Model	Rugged TROLL 100 / 10m
Serial number	193039
Location:	6.5m below daum

Baro logger	Rugged Baro TROLL
Serial number	328826
Depth	In top of stilling well

Logger and Baro are installed within a 40mm diameter stilling tube in stream bed upstream of weir.

Air photo of Bumbuna Dam and downstream weir.

**Contacts (Studio Pietrangeli Consultants)**

Name	Title	Telephone / email
David S Conteh	Civil Engineer	033 548 210 / 076 850 549 dasacone@gmail.com
Mr.Ciro	Bumbuna Dam Manager	
Mr Mengeste	Technical Manager	

BD03**Bumbuna Dam Reservoir****Tonkolili District****Water Levels in Reservoir****GPS Co-ordinates**

Location	Latitude	Longitude
Logger	9.07222	-11.72055

Notes on Water Source

Reservoir for Hydro Electric Power.



Dam wall and reservoir near to measuring location

Reservoir Levels

Dam crest	244.00 mASL
Left spillway	238.00 mASL
Right spillway	236.00 mASL
Base of reservoir	TBA

Max water level	241.96 mASL
Max operating level	241.75 mASL
Min operating level	210.00 mASL

Logging Equipment Installed

Model	Vented pressure logger
Location:	Base of reservoir



Air photo of dam during construction looking downstream

Air photo of reservoir looking upstream

**Contacts (Studio Pietrangeli Consultants)**

Name	Title	Telephone / email
David S Conteh	Civil Engineer	033 548 210 / 076 850 549 dasacone@gmail.com
Mr.Ciro	Bumbuna Dam Manager	
Mr Mengeste	Technical Manager	

MD01

Makeni Weather Station
(Sierra Leone Meteorological Department)

Bombali District

Rain gauge site

GPS Co-ordinates

Location	Latitude	Longitude
Rain gauge	8.87904	-12.04621

Notes

Manned Met Dept Site. Rainfall recorded hourly during daylight hours. Also collects temperature and humidity data from thermometers in Stephenson screen.



Stevenson screen and rain gauge site

Rain Gauge

Model	Manual Cylinder
Fencing	None
First record date	1921



Mr Kargbo at his desk with record books.

Contacts (Sierra Leone Meteorological Department, Makeni)

Name	Title	Telephone / email
Samuel Baimba	Meteorological Officer	078 789398 / 077 317947
Mr Kargbo	Supervisor	(Retired 2014)