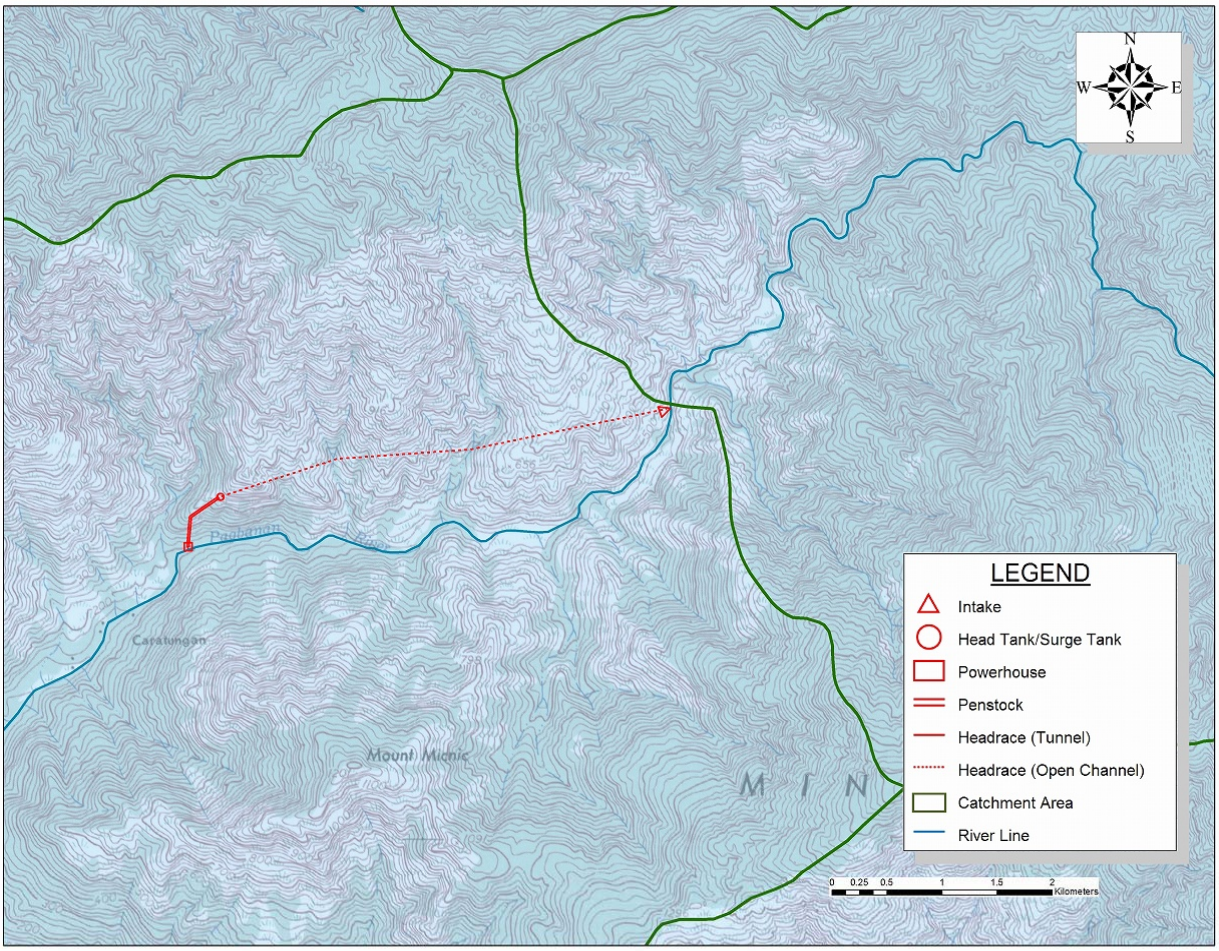
JICA POTENTIAL SITE WITH SITE RECONNAISSANCE (6 / 47)

PROJECT NAME Pagbahan No.1



LOCATION

Island	Mindoro
Region	MIMAROPA
Province	OCCIDENTAL MINDORO
Municipality	SANTA CRUZ

RIVER

River Basin	Pagbahan
River	Pagbahan

RESERVOIR

Reservoir Volume	-	Mil m^3
Effective Volume	-	Mil m^3
High Water Level	-	m

Coordinate

	Latitude	Longtitude
Weir/Dam	13'12'46'	120'45'60'
Intake1	-	-
Intake2	-	-
Powerhouse	13'12'46'	120'46'0'

POWER GENERATION PLAN

Max Output	12.00	MW
Power Generation Type	Run of River	
Annual Power Generation	53.189	GWh
Plant Factor	48%	
Catchment Area	44.44	km^2
Maximum Discharge	6.45	m^3/s
Gross Head	239.00	m
Effective Head	224.88	m
Intake Water Level	468.00	m
Tailrace Water level	229.00	m

PROJECT EVALUATUION

Construction Cost	28.45	Mil USD
	1,229.14	Mil PHP
Unit Cost / kW	2,367	USD
	102,263	PHP
Unit Cost / kWh	0.50	USD
	21.51	PHP
EIRR	24.6%	
FIRR	16.2%	

*1USD =43.2PHP (03/2012)

CIVIL WORKS

Main Weir	Height	5.0	m
	Crest Length	30.0	m
Headrace	Open Channel	5,800.0	m
	Tunnel	-	m
Penstock		620.0	m
Tailrace		10.0	m
Access Road		15.0	km

EM / TL WORKS

Turbine	Type	Francis	
	Number of Unit	two unit	
Transmission	Line Voltage	-	kV
	Length	16.0	km

ENVIRONMENT ISSUE

Protected Area	-
Volcano	-

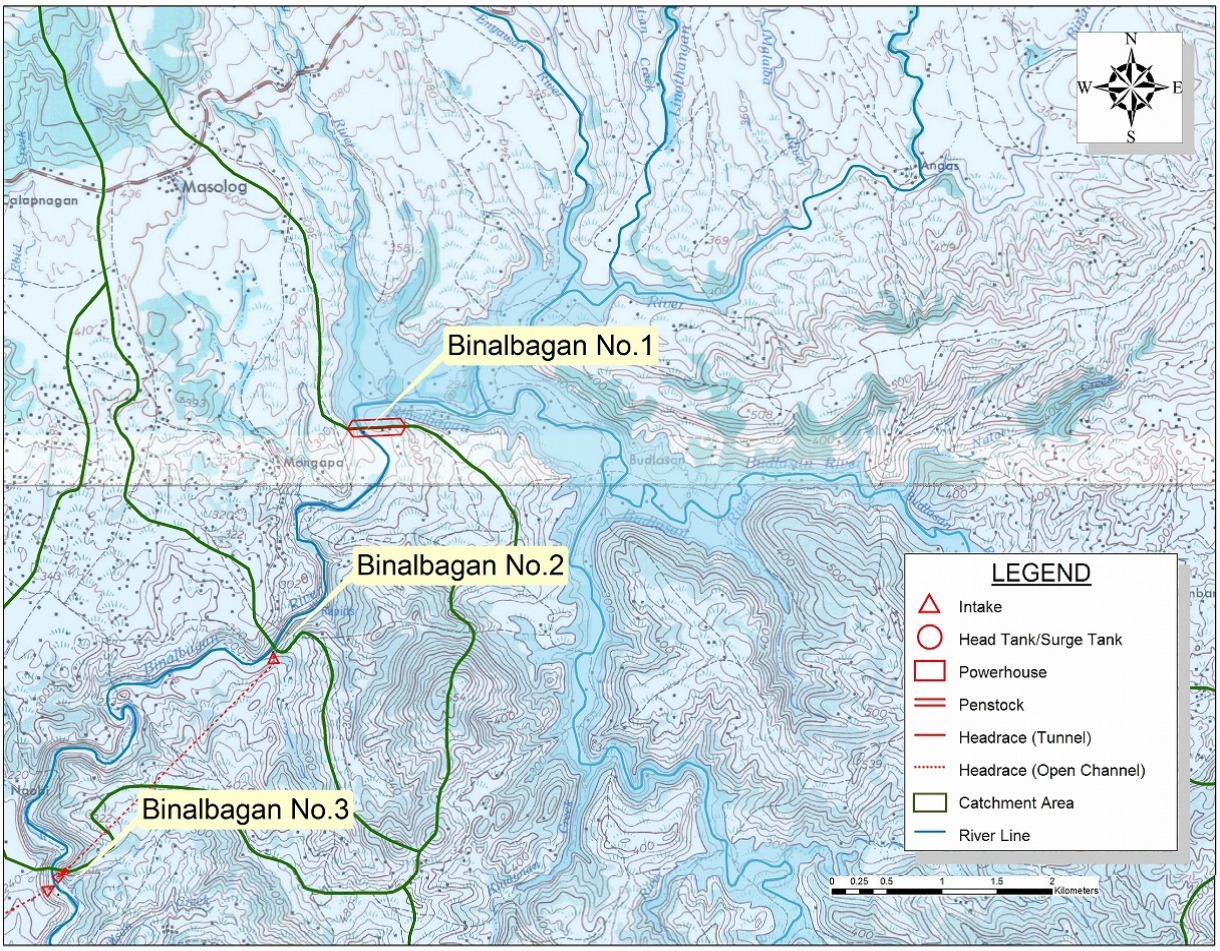
PROJECT STUDY

Study	Type	Map Study Site Reconnaissance
	Date	2012
	Sponsor	JICA

Remark

JICA POTENTIAL SITE WITH SITE RECONNAISSANCE (7 / 47)

PROJECT NAME **Binalbagan No.1**



LOCATION

Island	Negros
Region	CENTRAL VISAYAS
Province	NEGROS ORIENTAL
Municipality	CANLAON CITY

RIVER

River Basin	Binalbagan
River	Binalbagan

RESERVOIR

Reservoir Volume	228.9 Mil m^3
Effective Volume	31.3 Mil m^3
High Water Level	295.0 m

Coordinate

	Latitude	Longtitude
Weir/Dam	10'20'11'	123'11'3'
Intake1	10'19'27'	123'12'3'
Intake2	-	-
Powerhouse	10'19'27'	123'10'53'

Remark

POWER GENERATION PLAN

Max Output	13.00	MW
Power Generation Type	Pondage	
Annual Power Generation	52.914	GWh
Plant Factor	44%	
Catchment Area	216.94	km^2
Maximum Discharge	20.32	m^3/s
Gross Head	85.00	m
Effective Head	76.87	m
Intake Water Level	295.00	m
Tailrace Water level	210.00	m

PROJECT EVALUATUION

Construction Cost	136.79	Mil USD
	5,909.16	Mil PHP
Unit Cost / kW	10,437	USD
	450,859	PHP
Unit Cost / kWh	2.33	USD
	100.64	PHP
EIRR	-4.6%	
FIRR	-7.1%	

*1USD =43.2PHP (03/2012)

CIVIL WORKS

Main Weir	Height	75.0	m
	Crest Length	526.0	m
Headrace	Open Channel	-	m
	Tunnel	1,948.0	m
Penstock		180.0	m
Tailrace		10.0	m
Access Road		1.7	km

EM / TL WORKS

Turbine	Type	Francis
	Number of Unit	two unit
Transmission	Line Voltage	- kV
	Length	9.5 km

ENVIRONMENT ISSUE

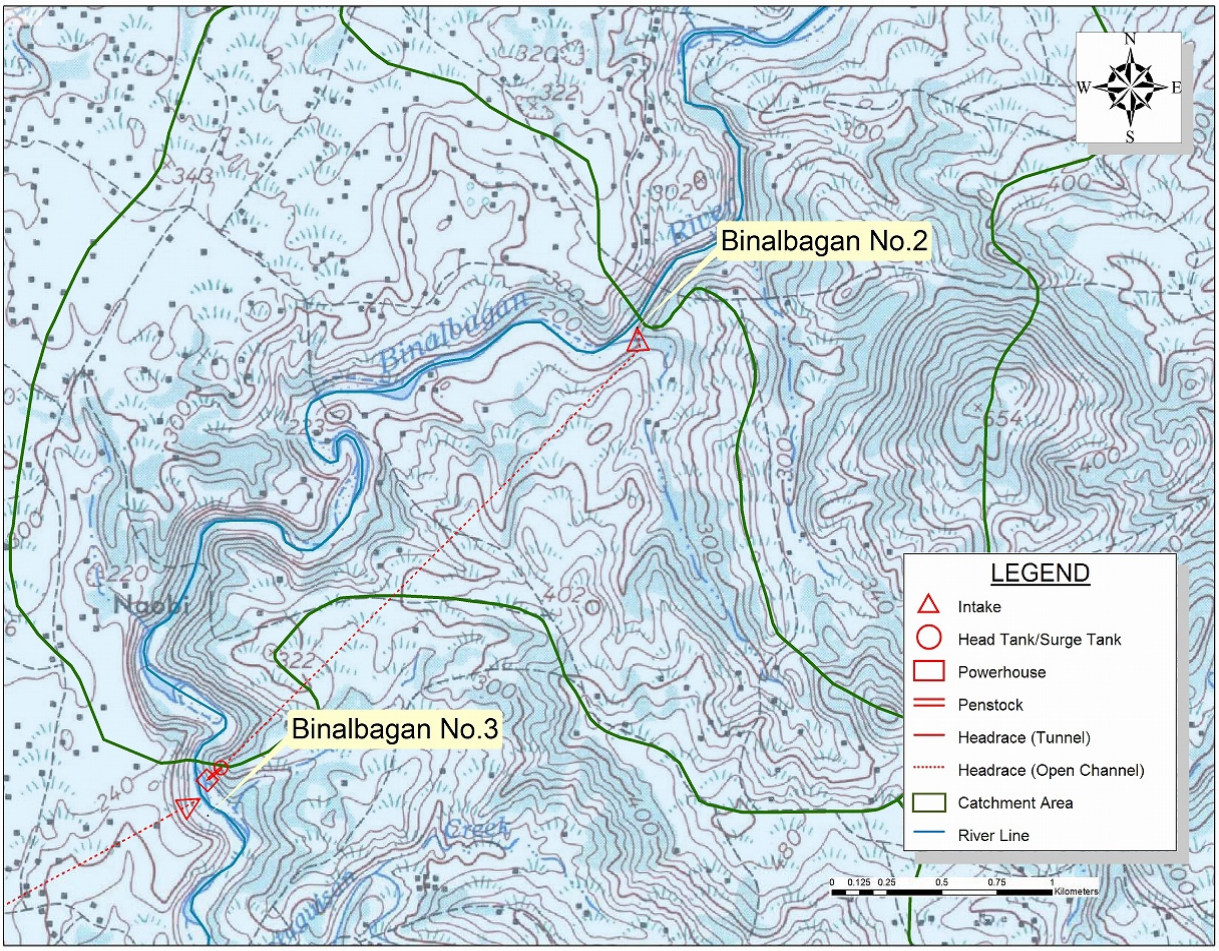
Protected Area	-
Volcano	Kanloan

PROJECT STUDY

Study	Type	Map Study Site Reconnaissance
	Date	2012
	Sponsor	JICA

JICA POTENTIAL SITE WITH SITE RECONNAISSANCE (8 / 47)

PROJECT NAME **Binalbagan No.2**



LOCATION

Island	Negros
Region	CENTRAL VISAYAS
Province	NEGROS ORIENTAL
Municipality	CANLAON CITY

RIVER

River Basin	Binalbagan
River	Binalbagan

RESERVOIR

Reservoir Volume	-	Mil m^3
Effective Volume	-	Mil m^3
High Water Level	-	m

Coordinate

	Latitude	Longtitude
Weir/Dam	10'19'7'	123'10'36'
Intake1	-	-
Intake2	-	-
Powerhouse	10'17'58'	123'9'33'

Remark

POWER GENERATION PLAN

Max Output	3.60	MW
Power Generation Type	Run of River	
Annual Power Generation	27.346	GWh
Plant Factor	82%	
Catchment Area	229.51	km^2
Maximum Discharge	8.21	m^3/s
Gross Head	63.00	m
Effective Head	54.24	m
Intake Water Level	196.00	m
Tailrace Water level	133.00	m

PROJECT EVALUATUION

Construction Cost	28.23	Mil USD
	1,219.65	Mil PHP
Unit Cost / kW	5,450	USD
	235,441	PHP
Unit Cost / kWh	0.66	USD
	28.49	PHP
EIRR	13.3%	
FIRR	9.0%	

*1USD =43.2PHP (03/2012)

CIVIL WORKS

Main Weir	Height	5.0	m
	Crest Length	30.0	m
Headrace	Open Channel	-	m
	Tunnel	2,788.0	m
Penstock		130.0	m
Tailrace		10.0	m
Access Road		3.4	km

EM / TL WORKS

Turbine	Type	Francis
	Number of Unit	one unit
Transmission	Line Voltage	- kV
	Length	11.6 km

ENVIRONMENT ISSUE

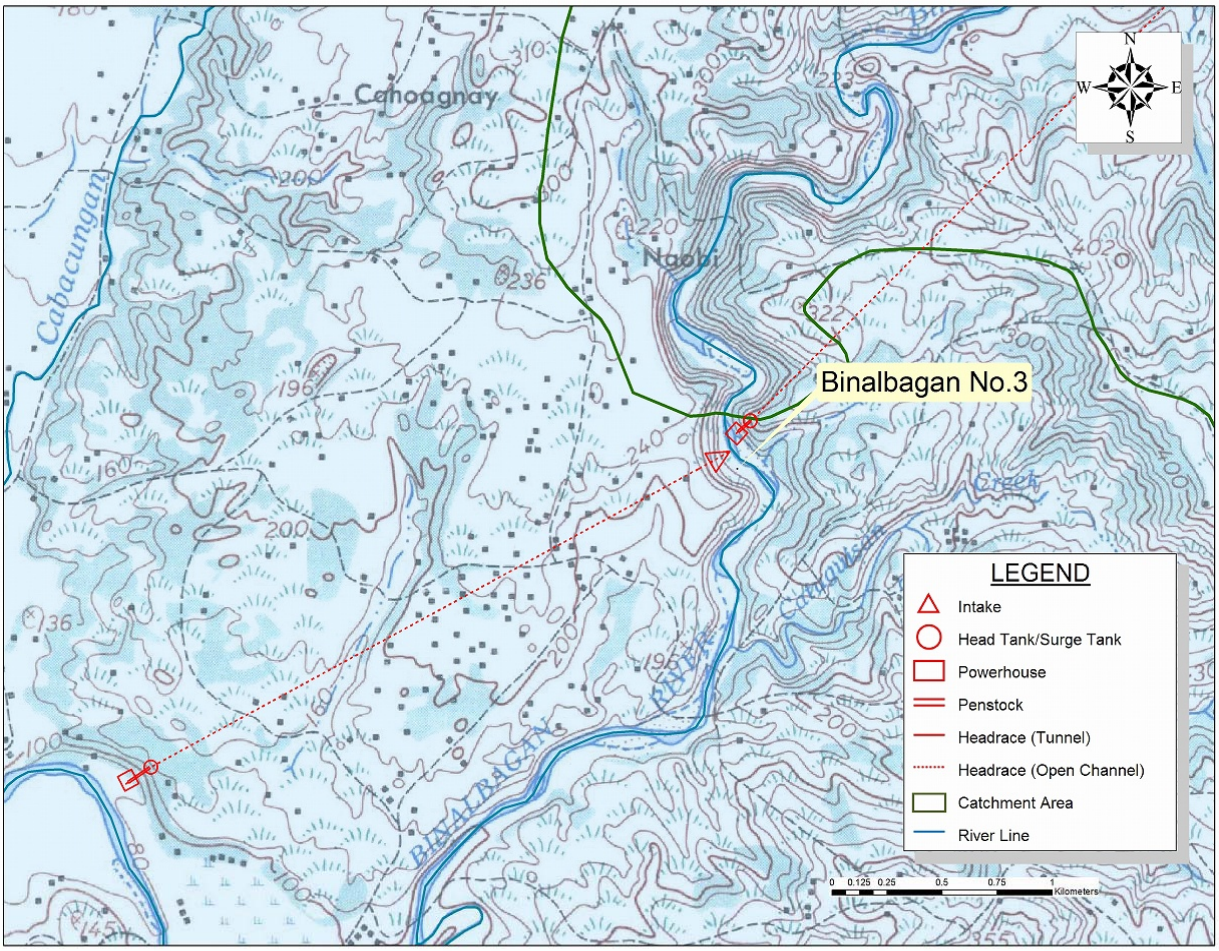
Protected Area	-
Volcano	Kanloan

PROJECT STUDY

Study	Type	Map Study Site Reconnaissance
	Date	2012
	Sponsor	JICA

JICA POTENTIAL SITE WITH SITE RECONNAISSANCE (9 / 47)

PROJECT NAME **Binalbagan No.3**



LOCATION

Island	Negros
Region	WESTERN VISAYAS
Province	NEGROS OCCIDENTAL
Municipality	MOISES PADILLA (MAGALLON)

RIVER

River Basin	Binalbagan
River	Binalbagan

RESERVOIR

Reservoir Volume	-	Mil m^3
Effective Volume	-	Mil m^3
High Water Level	-	m

Coordinate

	Latitude	Longtitude
Weir/Dam	10'17'56'	123'9'32'
Intake1	-	-
Intake2	-	-
Powerhouse	10'17'10'	123'8'2'

POWER GENERATION PLAN

Max Output	1.40	MW
Power Generation Type	Run of River	
Annual Power Generation	10.347	GWh
Plant Factor	80%	
Catchment Area	238.68	km^2
Maximum Discharge	8.54	m^3/s
Gross Head	29.00	m
Effective Head	20.15	m
Intake Water Level	165.00	m
Tailrace Water level	136.00	m

PROJECT EVALUATUION

Construction Cost	25.02	Mil USD
	1,080.96	Mil PHP
Unit Cost / kW	12,993	USD
	561,310	PHP
Unit Cost / kWh	1.61	USD
	69.48	PHP
EIRR	0.0%	
FIRR	-2.1%	

*1USD =43.2PHP (03/2012)

CIVIL WORKS

Main Weir	Height	5.0	m
	Crest Length	85.0	m
Headrace	Open Channel	-	m
	Tunnel	2,960.0	m
Penstock		110.0	m
Tailrace		10.0	m
Access Road		2.0	km

EM / TL WORKS

Turbine	Type	Francis
	Number of Unit	one unit
Transmission	Line Voltage	- kV
	Length	14.8 km

ENVIRONMENT ISSUE

Protected Area	-
Volcano	Kanloan

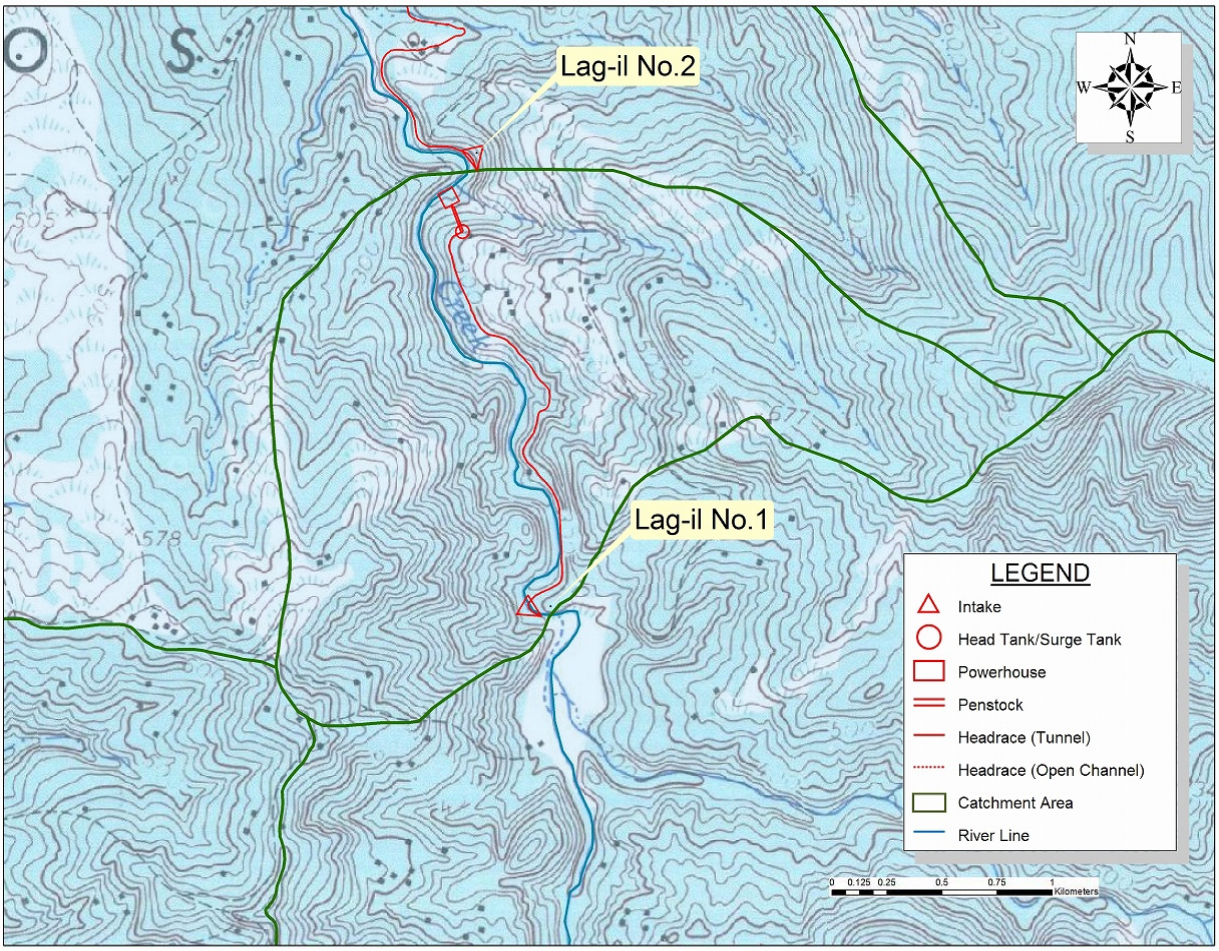
PROJECT STUDY

Study	Type	Map Study Site Reconnaissance
	Date	2012
	Sponsor	JICA

Remark

JICA POTENTIAL SITE WITH SITE RECONNAISSANCE (10 / 47)

PROJECT NAME **Lag-il No.1**



LOCATION

Island	Negros
Region	WESTERN VISAYAS
Province	NEGROS OCCIDENTAL
Municipality	BINALBAGAN

RIVER

River Basin	Binalbagan
River	Guintobahan

RESERVOIR

Reservoir Volume	-	Mil m^3
Effective Volume	-	Mil m^3
High Water Level	-	m

Coordinate

	Latitude	Longtitude
Weir/Dam	10'4'49'	123'1'50'
Intake1	-	-
Intake2	-	-
Powerhouse	10'5'48'	123'1'34'

Remark

POWER GENERATION PLAN

Max Output	1.30	MW
Power Generation Type	Run of River	
Annual Power Generation	8.803	GWh
Plant Factor	73%	
Catchment Area	35.66	km^2
Maximum Discharge	1.67	m^3/s
Gross Head	108.00	m
Effective Head	99.84	m
Intake Water Level	361.00	m
Tailrace Water level	253.00	m

PROJECT EVALUATUION

Construction Cost	8.58	Mil USD
	370.87	Mil PHP
Unit Cost / kW	5,470	USD
	236,321	PHP
Unit Cost / kWh	0.75	USD
	32.61	PHP
EIRR	11.3%	
FIRR	7.3%	

*1USD =43.2PHP (03/2012)

CIVIL WORKS

Main Weir	Height	5.0	m
	Crest Length	55.0	m
Headrace	Open Channel	1,979.0	m
	Tunnel	-	m
Penstock		190.0	m
Tailrace		10.0	m
Access Road		3.3	km

EM / TL WORKS

Turbine	Type	Francis
	Number of Unit	one unit
Transmission	Line Voltage	- kV
	Length	12.0 km

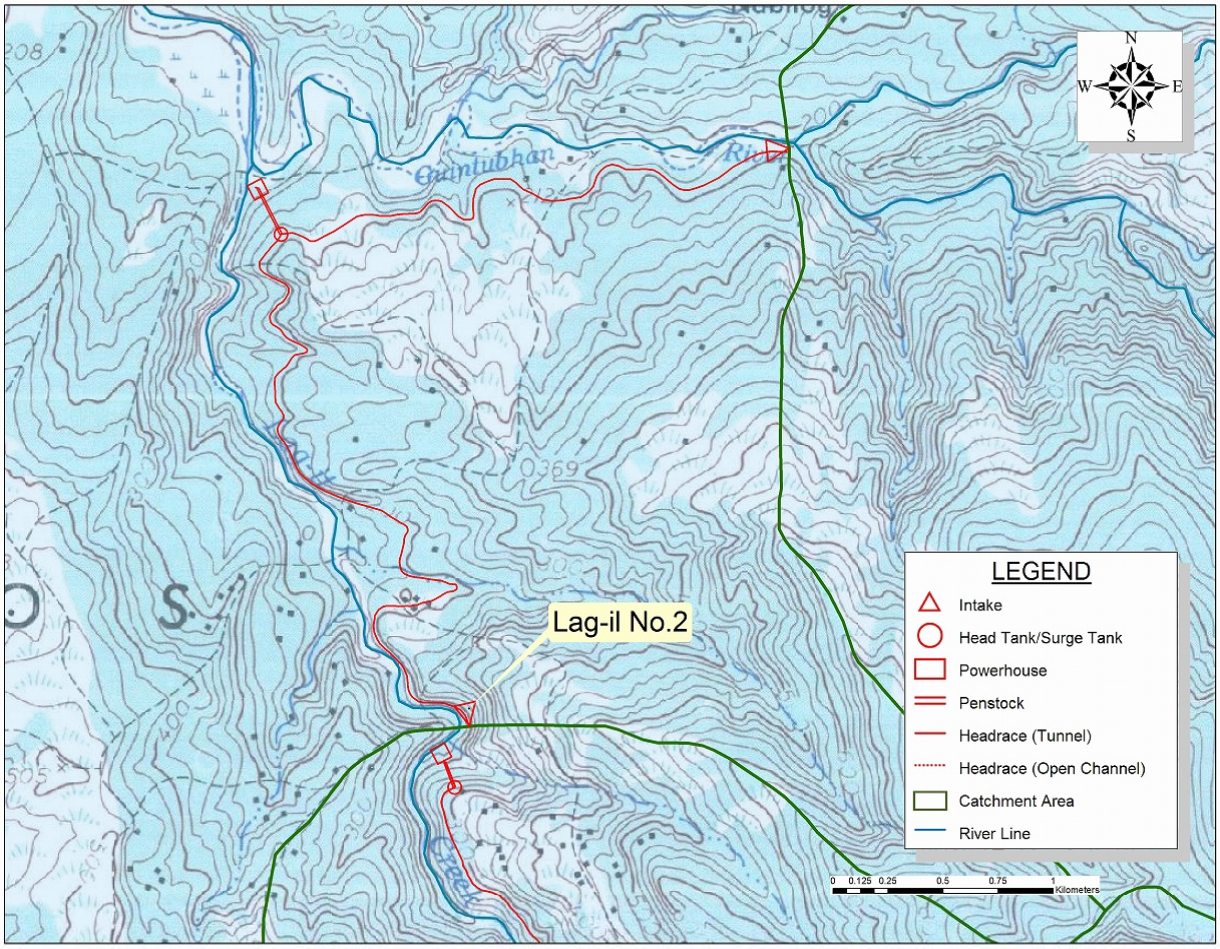
ENVIRONMENT ISSUE

Protected Area	-
Volcano	-

PROJECT STUDY

Study	Type	Map Study Site Reconnaissance
	Date	2012
	Sponsor	JICA

JICA POTENTIAL SITE WITH SITE RECONNAISSANCE (11 / 47)



LOCATION

Island	Negros
Region	WESTERN VISAYAS
Province	NEGROS OCCIDENTAL
Municipality	BINALBAGAN

RIVER

River Basin	Binalbagan
River	Guintobahan

RESERVOIR

Reservoir Volume	-	Mil m^3
Effective Volume	-	Mil m^3
High Water Level	-	m

Coordinate

	Latitude	Longtitude
Weir/Dam	10'5'55'	123'1'39'
Intake1	10'7'18'	123'2'25'
Intake2	-	-
Powerhouse	10'7'9'	123'1'6'

POWER GENERATION PLAN

Max Output	2.30	MW
Power Generation Type	Run of River	
Annual Power Generation	15.513	GWh
Plant Factor	73%	
Catchment Area	64.80	km^2
Maximum Discharge	3.03	m^3/s
Gross Head	102.00	m
Effective Head	95.64	m
Intake Water Level	276.00	m
Tailrace Water level	174.00	m

PROJECT EVALUATUION

Construction Cost	13.77	Mil USD
	594.86	Mil PHP
Unit Cost / kW	4,926	USD
	212,792	PHP
Unit Cost / kWh	0.68	USD
	29.31	PHP
EIRR	13.3%	
FIRR	8.8%	

*1USD =43.2PHP (03/2012)

CIVIL WORKS

Main Weir	Height	5.0	m
	Crest Length	35.0	m
Headrace	Open Channel	6,000.0	m
	Tunnel	-	m
Penstock		240.0	m
Tailrace		10.0	m
Access Road		4.3	km

EM / TL WORKS

Turbine	Type	Francis
	Number of Unit	one unit
Transmission	Line Voltage	- kV
	Length	10.9 km

ENVIRONMENT ISSUE

Protected Area	-
Volcano	-

PROJECT STUDY

Study	Type	Map Study Site Reconnaissance
	Date	2012
	Sponsor	JICA

Remark