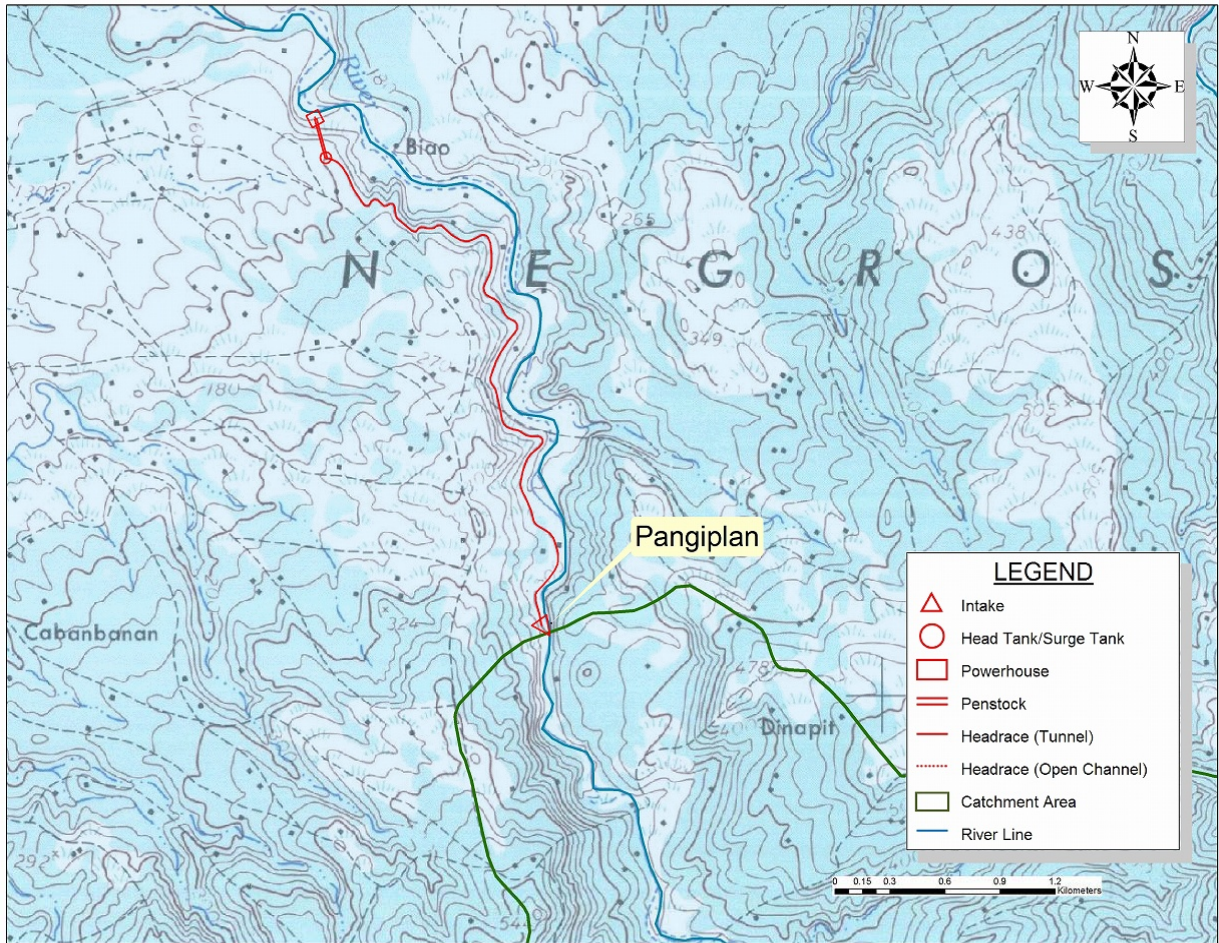


**JICA POTENTIAL SITE WITH SITE RECONNAISSANCE ( 12 / 47 )**

**PROJECT NAME**      **Pangiplan**



**LOCATION**

Island	Negros
Region	WESTERN VISAYAS
Province	NEGROS OCCIDENTAL
Municipality	CITY OF HIMAMAYLAN

**RIVER**

River Basin	Binalbagan
River	Guintobahan

**RESERVOIR**

Reservoir Volume	-	Mil m <sup>3</sup>
Effective Volume	-	Mil m <sup>3</sup>
High Water Level	-	m

**Coordinate**

	Latitude	Longitude
Weir/Dam	10°5'8"	122°59'6"
Intake1	-	-
Intake2	-	-
Powerhouse	10°6'37"	122°58'24"

**Remark**

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**POWER GENERATION PLAN**

Max Output	1.40 MW
Power Generation Type	Run of River
Annual Power Generation	8.969 GWh
Plant Factor	69%
Catchment Area	40.48 km <sup>2</sup>
Maximum Discharge	1.92 m <sup>3</sup> /s
Gross Head	99.00 m
Effective Head	89.18 m
Intake Water Level	273.00 m
Tailrace Water level	174.00 m

**PROJECT EVALUATION**

Construction Cost	9.86 Mil USD 425.99 Mil PHP
Unit Cost / kW	5,997 USD 259,063 PHP
Unit Cost / kWh	0.87 USD 37.43 PHP
EIRR	8.8%
FIRR	5.3%

\*1USD =43.2PHP (03/2012)

**CIVIL WORKS**

Main Weir	Height	5.0 m
	Crest Length	35.0 m
Headrace	Open Channel	3,448.0 m
	Tunnel	- m
Penstock		250.0 m
Tailrace		10.0 m
Access Road		2.2 km

**EM / TL WORKS**

Turbine	Type	Francis
	Number of Unit	one unit
Transmission	Line Voltage	- kV
	Length	6.1 km

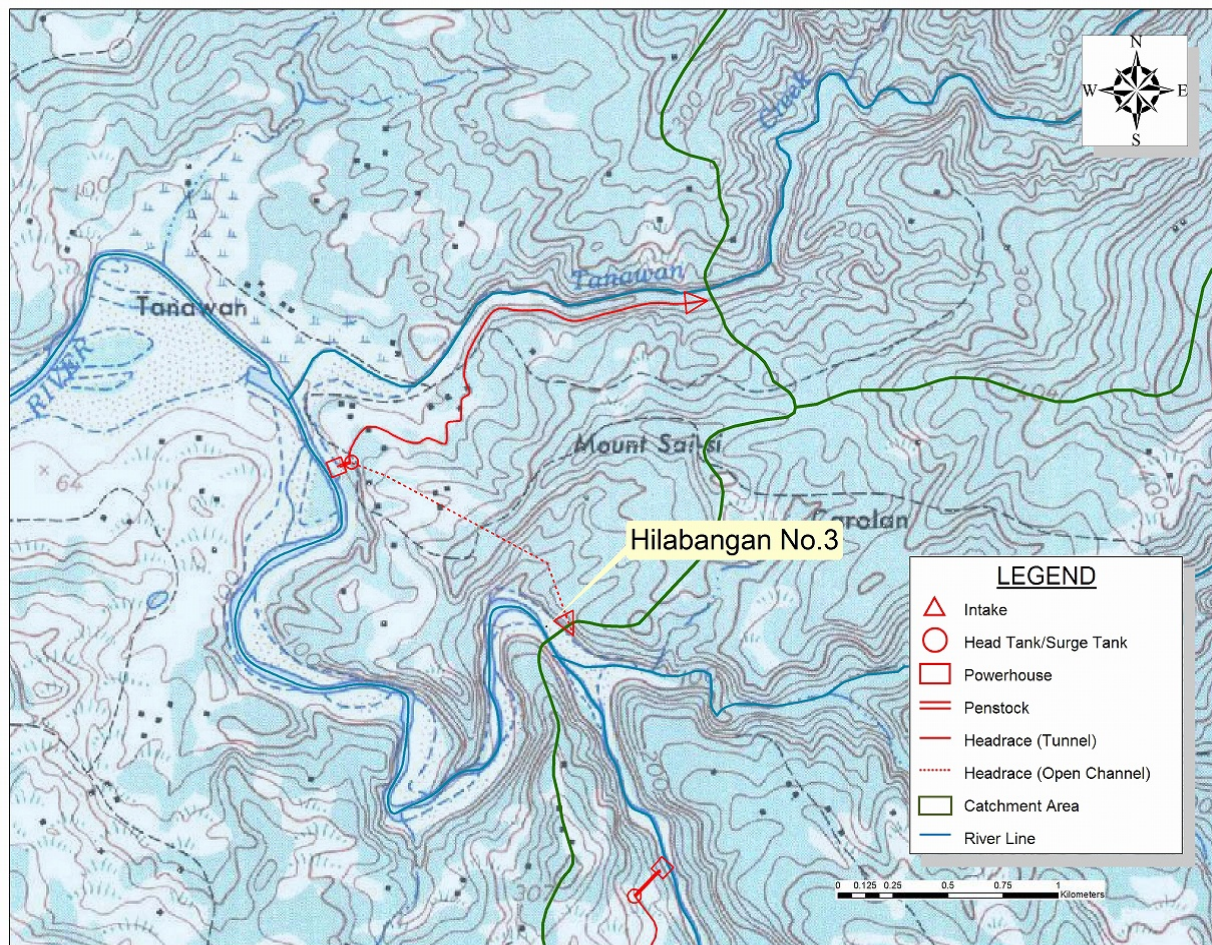
**ENVIRONMENT ISSUE**

Protected Area	-
Volcano	-

**PROJECT STUDY**

Study	Type	Map Study Site Reconnaissance
	Date	2012
	Sponsor	JICA

**PROJECT NAME Hilabangan No.3**



**LOCATION**

Island	Negros
Region	WESTERN VISAYAS
Province	NEGROS OCCIDENTAL
Municipality	CITY OF KABANKALAN

**RIVER**

River Basin	Ilog
River	Hilabangan

**RESERVOIR**

Reservoir Volume	-	Mil m <sup>3</sup>
Effective Volume	-	Mil m <sup>3</sup>
High Water Level	-	m

**Coordinate**

	Latitude	Longitude
Weir/Dam	9°57'42"	122°55'7"
Intake1	9°58'31"	122°55'31"
Intake2	-	-
Powerhouse	9°58'7"	122°54'36"

**Remark**

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**POWER GENERATION PLAN**

Max Output	3.60 MW
Power Generation Type	Run of River
Annual Power Generation	28.628 GWh
Plant Factor	86%
Catchment Area	390.90 km <sup>2</sup>
Maximum Discharge	12.87 m <sup>3</sup> /s
Gross Head	41.00 m
Effective Head	35.10 m
Intake Water Level	138.00 m
Tailrace Water level	97.00 m

**PROJECT EVALUATION**

Construction Cost	30.54 Mil USD 1,319.47 Mil PHP
Unit Cost / kW	6,003 USD 259,330 PHP
Unit Cost / kWh	0.69 USD 29.94 PHP
EIRR	12.2%
FIRR	8.3%

\*1USD =43.2PHP (03/2012)

**CIVIL WORKS**

Main Weir	Height	5.0 m
	Crest Length	67.0 m
Headrace	Open Channel	1,280.0 m
	Tunnel	2,200.0 m
Penstock		110.0 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	1.8 km

**ENVIRONMENT ISSUE**

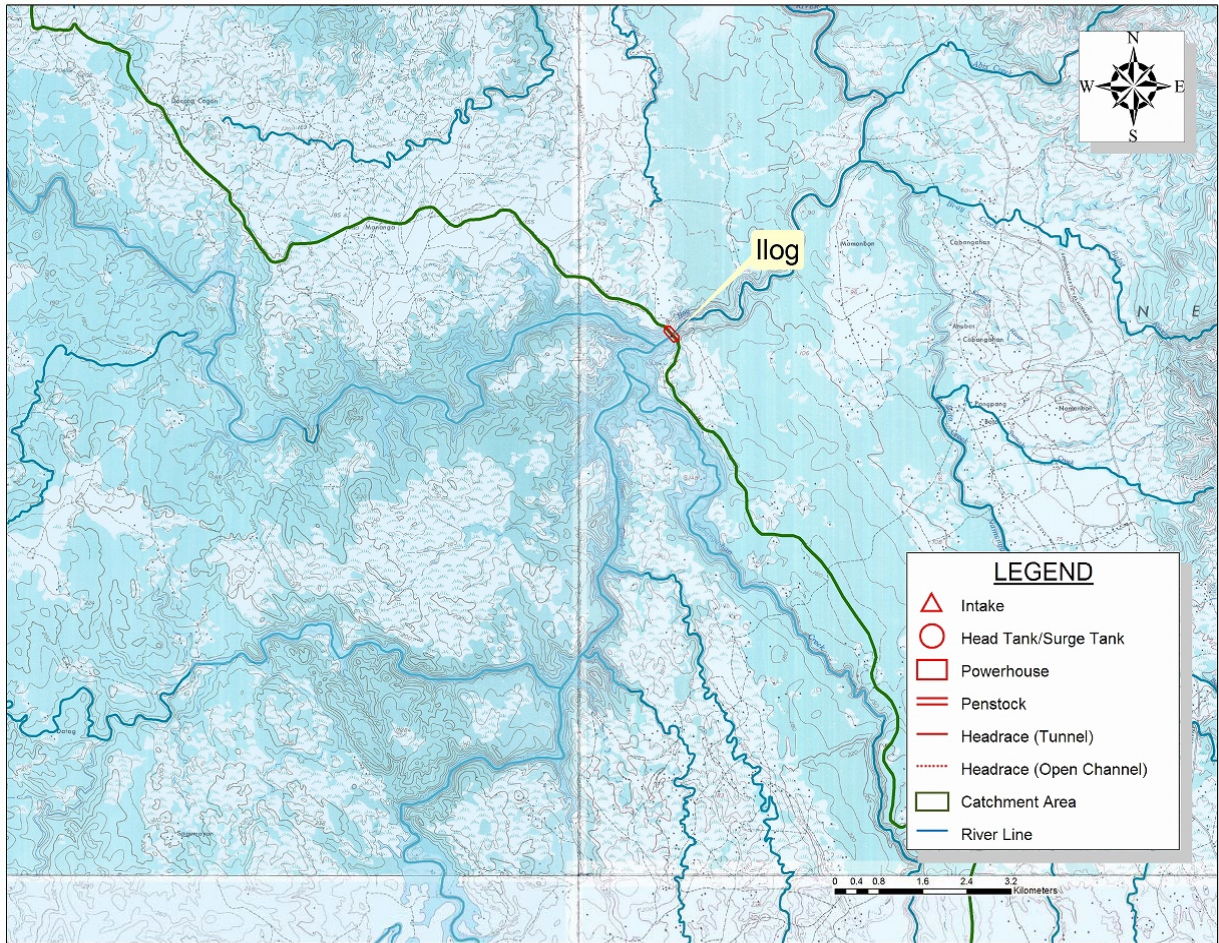
Protected Area	Ilog Hilabangan Water Forest Reserve
Volcano	-

**PROJECT STUDY**

Study	Type	Map Study Site Reconnaissance
	Date	2012
	Sponsor	JICA

**JICA POTENTIAL SITE WITH SITE RECONNAISSANCE ( 14 / 47 )**

**PROJECT NAME Ilog**



**LOCATION**

Island	Negros
Region	CENTRAL VISAYAS
Province	NEGROS ORIENTAL
Municipality	MABINAY

**RIVER**

River Basin	Ilog
River	Ilog

**RESERVOIR**

Reservoir Volume	699.4 Mil m <sup>3</sup>
Effective Volume	188.5 Mil m <sup>3</sup>
High Water Level	115.0 m

**Coordinate**

	Latitude	Longitude
Weir/Dam	9°45'10"	122°53'0"
Intake1	-	-
Intake2	-	-
Powerhouse	9°45'11"	122°53'4"

**Remark**

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**POWER GENERATION PLAN**

Max Output	21.60 MW
Power Generation Type	Reservoir
Annual Power Generation	144.359 GWh
Plant Factor	72%
Catchment Area	887.29 km <sup>2</sup>
Maximum Discharge	41.53 m <sup>3</sup> /s
Gross Head	68.00 m
Effective Head	61.96 m
Intake Water Level	162.00 m
Tailrace Water level	94.00 m

**PROJECT EVALUATION**

Construction Cost	115.60 Mil USD 4,993.71 Mil PHP
Unit Cost / kW	4,871 USD 210,406 PHP
Unit Cost / kWh	0.66 USD 28.64 PHP
EIRR	13.3%
FIRR	9.0%

\*1USD =43.2PHP (03/2012)

**CIVIL WORKS**

Main Weir	Height	70.0 m
	Crest Length	240.0 m
Headrace	Open Channel	- m
	Tunnel	- m
Penstock		130.0 m
Tailrace		50.0 m
Access Road		1.3 km

**EM / TL WORKS**

Turbine	Type	Francis
	Number of Unit	one unit
Transmission	Line Voltage	- kV
	Length	0.8 km

**ENVIRONMENT ISSUE**

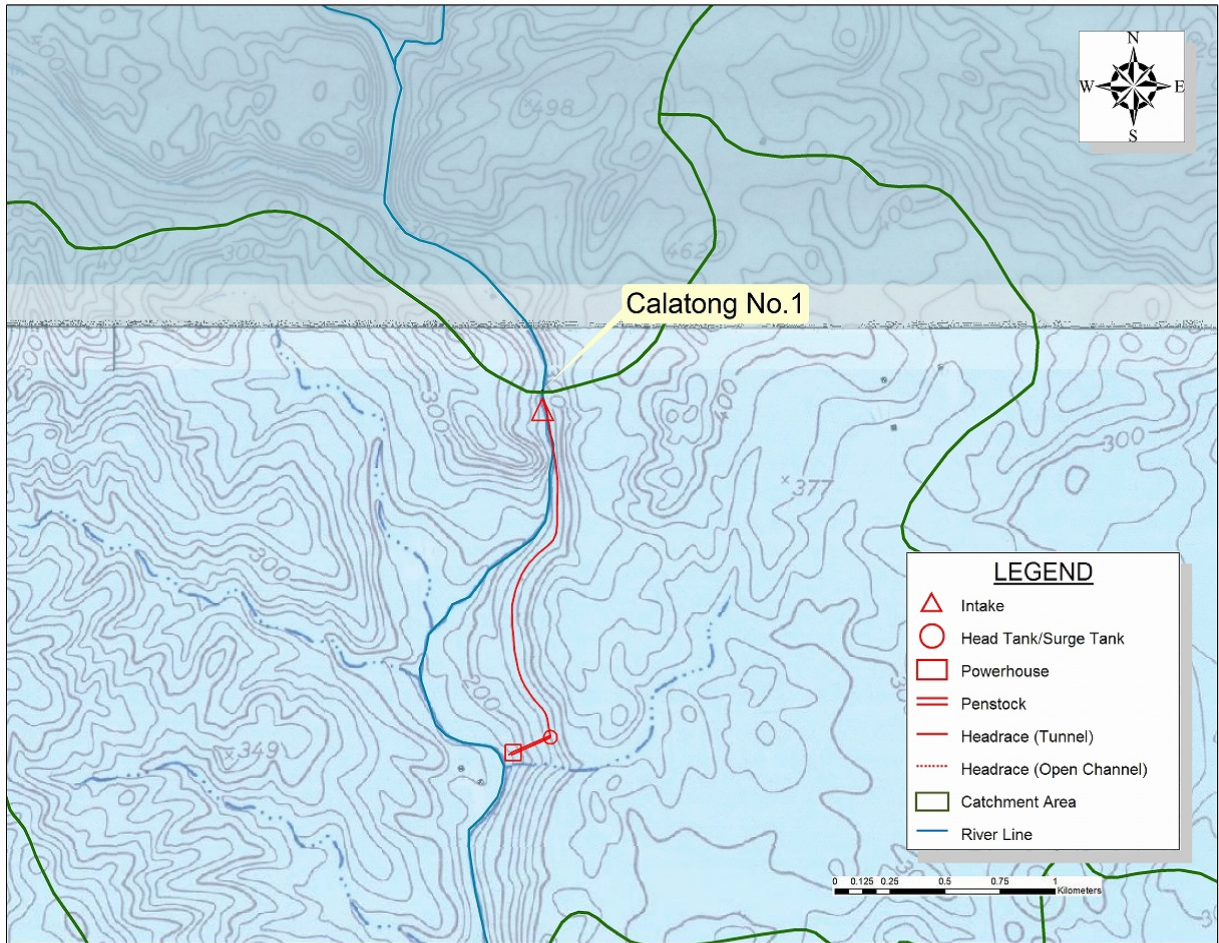
Protected Area	-
Volcano	-

**PROJECT STUDY**

Study	Type	Map Study Site Reconnaissance
	Date	2012
	Sponsor	JICA

**JICA POTENTIAL SITE WITH SITE RECONNAISSANCE ( 15 / 47 )**

**PROJECT NAME Calatong No.1**



**LOCATION**

Island	Negros
Region	WESTERN VISAYAS
Province	NEGROS OCCIDENTAL
Municipality	CITY OF SIPALAY

**RIVER**

River Basin	Sipalay
River	Calatong

**RESERVOIR**

Reservoir Volume	-	Mil m <sup>3</sup>
Effective Volume	-	Mil m <sup>3</sup>
High Water Level	-	m

**Coordinate**

	Latitude	Longitude
Weir/Dam	9°49'47"	122°31'9"
Intake1	-	-
Intake2	-	-
Powerhouse	9°48'55"	122°31'3"

**Remark**

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**POWER GENERATION PLAN**

Max Output	1.30 MW
Power Generation Type	Run of River
Annual Power Generation	8.862 GWh
Plant Factor	74%
Catchment Area	31.43 km <sup>2</sup>
Maximum Discharge	1.47 m <sup>3</sup> /s
Gross Head	122.00 m
Effective Head	114.04 m
Intake Water Level	318.00 m
Tailrace Water level	196.00 m

**PROJECT EVALUATION**

Construction Cost	7.68 Mil USD 331.81 Mil PHP
Unit Cost / kW	4,794 USD 207,083 PHP
Unit Cost / kWh	0.66 USD 28.50 PHP
EIRR	14.1%
FIRR	9.3%

\*1USD =43.2PHP (03/2012)

**CIVIL WORKS**

Main Weir	Height	4.0 m
	Crest Length	30.0 m
Headrace	Open Channel	1,600.0 m
	Tunnel	- m
Penstock		240.0 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	3.8 km

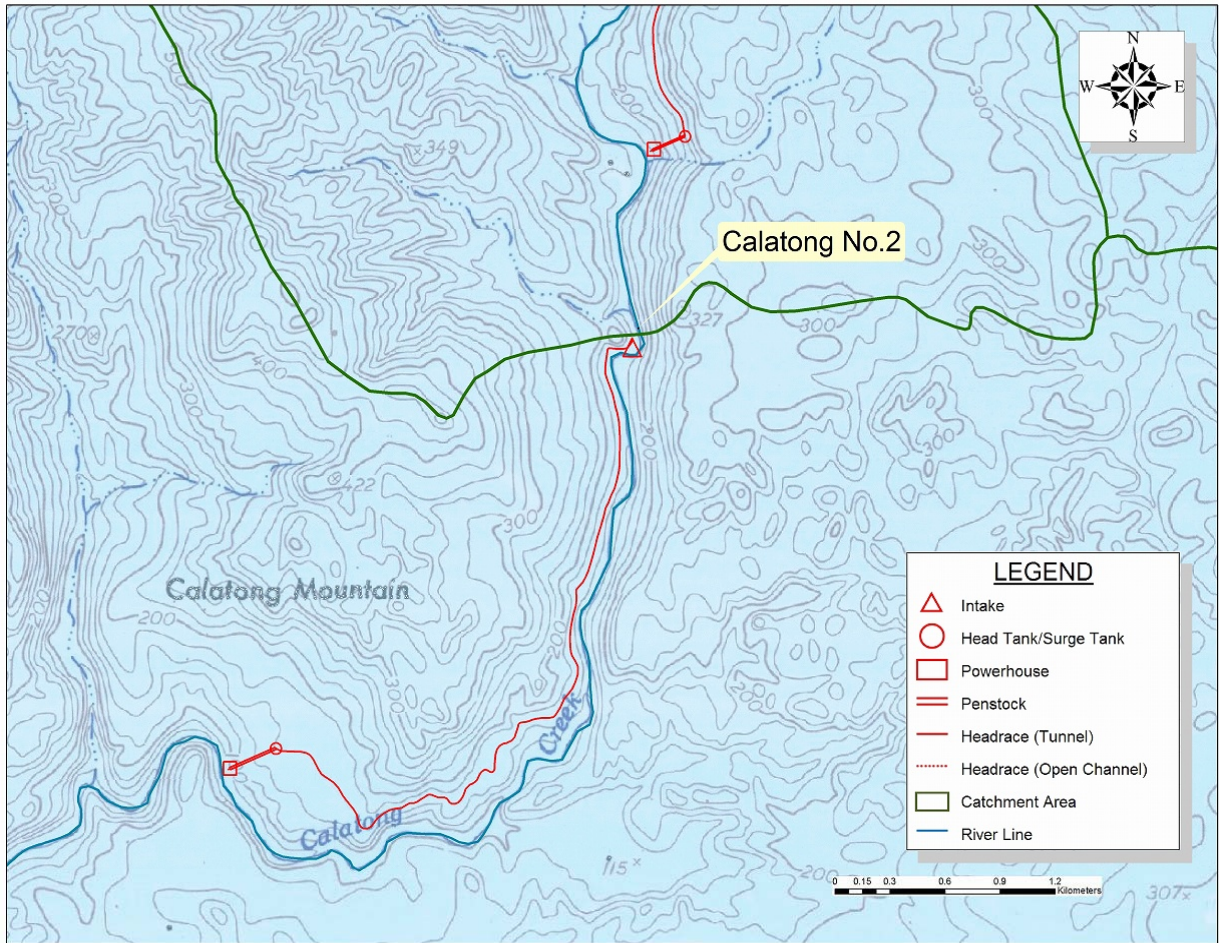
**ENVIRONMENT ISSUE**

Protected Area	-
Volcano	-

**PROJECT STUDY**

Study	Type	Map Study Site Reconnaissance
	Date	2012
	Sponsor	JICA

**PROJECT NAME**      **Calatong No.2**



**LOCATION**

Island	Negros
Region	WESTERN VISAYAS
Province	NEGROS OCCIDENTAL
Municipality	CITY OF SIPALAY

**RIVER**

River Basin	Sipalay
River	Calatong

**RESERVOIR**

Reservoir Volume	-	Mil m <sup>3</sup>
Effective Volume	-	Mil m <sup>3</sup>
High Water Level	-	m

**Coordinate**

	Latitude	Longitude
Weir/Dam	9°48'23"	122°31'2"
Intake1	-	-
Intake2	-	-
Powerhouse	9°47'9"	122°29'49"

**Remark**

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**POWER GENERATION PLAN**

Max Output	1.70 MW
Power Generation Type	Run of River
Annual Power Generation	11.474 GWh
Plant Factor	73%
Catchment Area	46.66 km <sup>2</sup>
Maximum Discharge	2.21 m <sup>3</sup> /s
Gross Head	109.00 m
Effective Head	98.49 m
Intake Water Level	180.00 m
Tailrace Water level	71.00 m

**PROJECT EVALUATION**

Construction Cost	11.59 Mil USD 500.54 Mil PHP
Unit Cost / kW	5,705 USD 246,454 PHP
Unit Cost / kWh	0.78 USD 33.86 PHP
EIRR	10.5%
FIRR	6.7%

\*1USD =43.2PHP (03/2012)

**CIVIL WORKS**

Main Weir	Height	4.0 m
	Crest Length	35.0 m
Headrace	Open Channel	4,050.0 m
	Tunnel	- m
Penstock		270.0 m
Tailrace		10.0 m
Access Road		3.2 km

**EM / TL WORKS**

Turbine	Type	Francis
	Number of Unit	one unit
Transmission	Line Voltage	- kV
	Length	2.8 km

**ENVIRONMENT ISSUE**

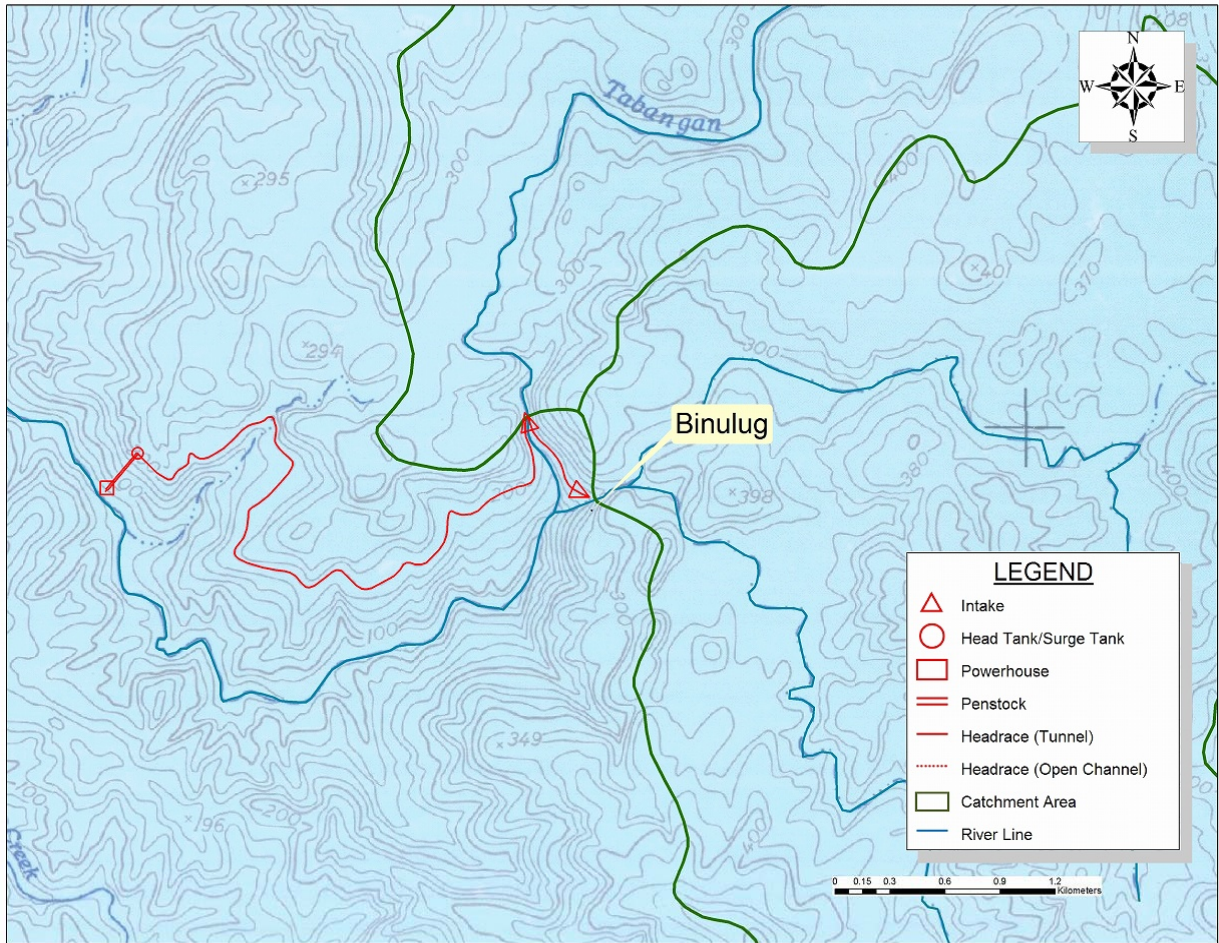
Protected Area	-
Volcano	-

**PROJECT STUDY**

Study	Type	Map Study Site Reconnaissance
	Date	2012
	Sponsor	JICA

**JICA POTENTIAL SITE WITH SITE RECONNAISSANCE ( 17 / 47 )**

**PROJECT NAME Binulug**



**LOCATION**

Island	Negros
Region	WESTERN VISAYAS
Province	NEGROS OCCIDENTAL
Municipality	CANDONI

**RIVER**

River Basin	Sipalay
River	Sipalay

**RESERVOIR**

Reservoir Volume	-	Mil m <sup>3</sup>
Effective Volume	-	Mil m <sup>3</sup>
High Water Level	-	m

**Coordinate**

	Latitude	Longitude
Weir/Dam	9°44'41"	122°33'48"
Intake1	9°44'56"	122°33'36"
Intake2	-	-
Powerhouse	9°44'48"	122°32'20"

**Remark**

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**POWER GENERATION PLAN**

Max Output	4.50 MW
Power Generation Type	Run of River
Annual Power Generation	24.092 GWh
Plant Factor	58%
Catchment Area	51.74 km <sup>2</sup>
Maximum Discharge	3.50 m <sup>3</sup> /s
Gross Head	170.00 m
Effective Head	159.76 m
Intake Water Level	263.00 m
Tailrace Water level	93.00 m

**PROJECT EVALUATION**

Construction Cost	14.08 Mil USD 608.24 Mil PHP
Unit Cost / kW	3,126 USD 135,055 PHP
Unit Cost / kWh	0.54 USD 23.40 PHP
EIRR	19.9%
FIRR	13.2%

\*1USD =43.2PHP (03/2012)

**CIVIL WORKS**

Main Weir	Height	3.0 m
	Crest Length	35.0 m
Headrace	Open Channel	4,050.0 m
	Tunnel	- m
Penstock		320.0 m
Tailrace		10.0 m
Access Road		4.4 km

**EM / TL WORKS**

Turbine	Type	Francis
	Number of Unit	two unit
Transmission	Line Voltage	- kV
	Length	8.7 km

**ENVIRONMENT ISSUE**

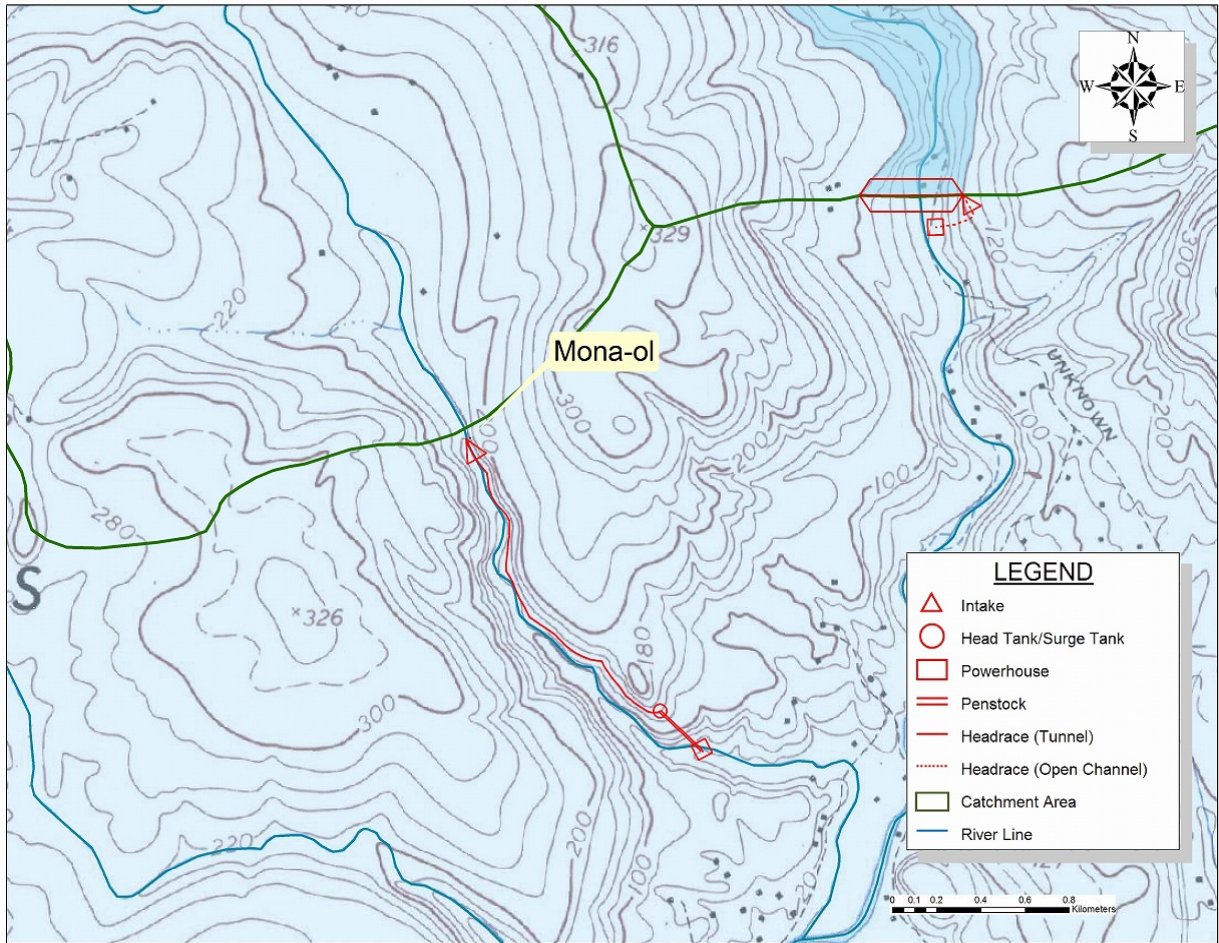
Protected Area	-
Volcano	-

**PROJECT STUDY**

Study	Type	Map Study Site Reconnaissance
	Date	2012
	Sponsor	JICA

**JICA POTENTIAL SITE WITH SITE RECONNAISSANCE ( 18 / 47 )**

**PROJECT NAME**      **Mona-ol**



**LOCATION**

Island	Negros
Region	CENTRAL VISAYAS
Province	NEGROS ORIENTAL
Municipality	CITY OF BAYAWAN (TULONG)

**RIVER**

River Basin	Bayawan
River	Bayawan

**RESERVOIR**

Reservoir Volume	-	Mil m <sup>3</sup>
Effective Volume	-	Mil m <sup>3</sup>
High Water Level	-	m

**Coordinate**

	Latitude	Longitude
Weir/Dam	9°26'47"	122°47'24"
Intake1	-	-
Intake2	-	-
Powerhouse	9°26'3"	122°47'59"

**Remark**

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**POWER GENERATION PLAN**

Max Output	1.90 MW
Power Generation Type	Run of River
Annual Power Generation	14.065 GWh
Plant Factor	80%
Catchment Area	31.32 km <sup>2</sup>
Maximum Discharge	2.26 m <sup>3</sup> /s
Gross Head	112.00 m
Effective Head	103.77 m
Intake Water Level	175.00 m
Tailrace Water level	63.00 m

**PROJECT EVALUATION**

Construction Cost	11.49 Mil USD 496.48 Mil PHP
Unit Cost / kW	4,061 USD 175,427 PHP
Unit Cost / kWh	0.51 USD 22.17 PHP
EIRR	19.5%
FIRR	13.6%

\*1USD =43.2PHP (03/2012)

**CIVIL WORKS**

Main Weir	Height	3.0 m
	Crest Length	42.0 m
Headrace	Open Channel	1,600.0 m
	Tunnel	- m
Penstock		320.0 m
Tailrace		10.0 m
Access Road		3.7 km

**EM / TL WORKS**

Turbine	Type	Francis
	Number of Unit	one unit
Transmission	Line Voltage	- kV
	Length	1.4 km

**ENVIRONMENT ISSUE**

Protected Area	-
Volcano	-

**PROJECT STUDY**

Study	Type	Map Study Site Reconnaissance
	Date	2012
	Sponsor	JICA