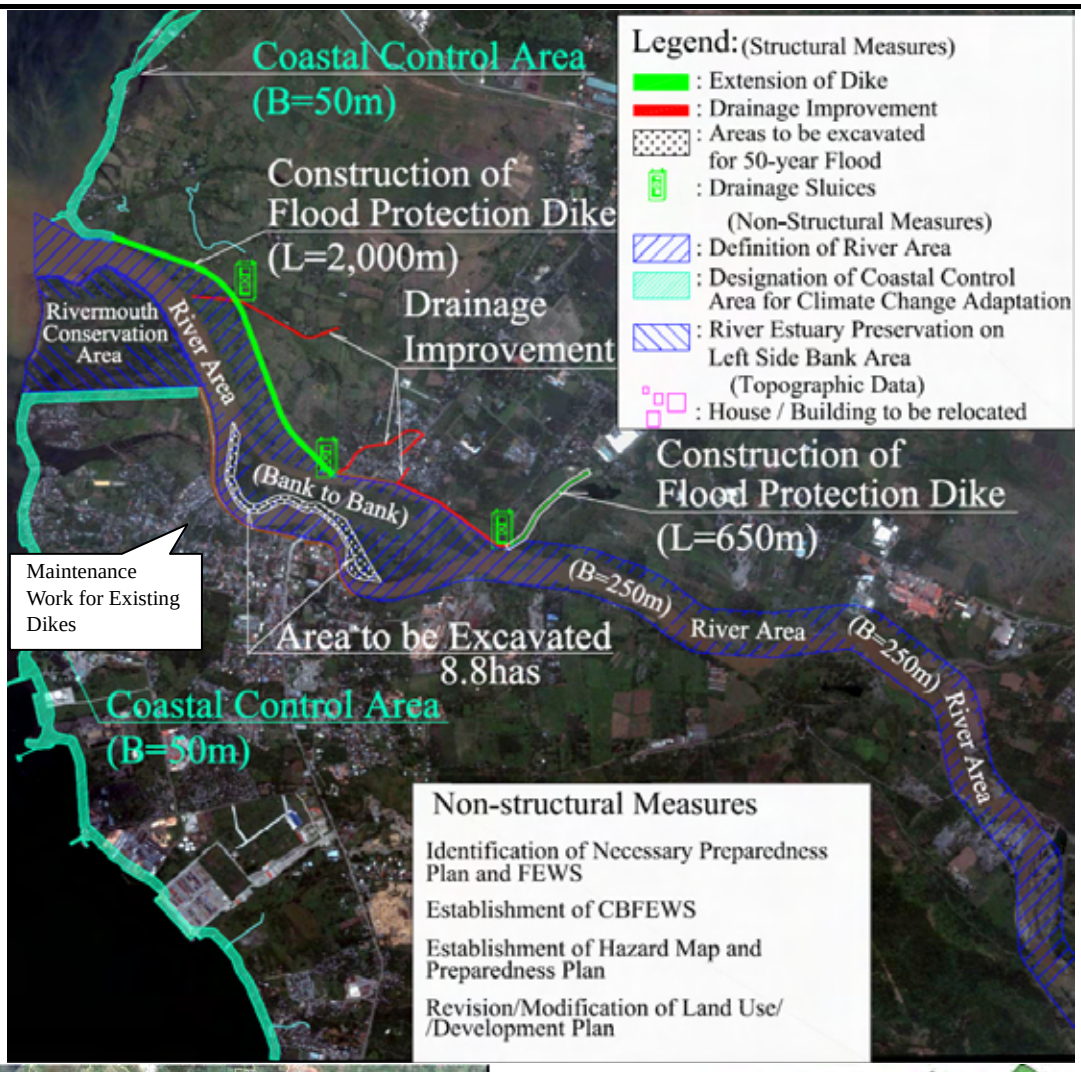
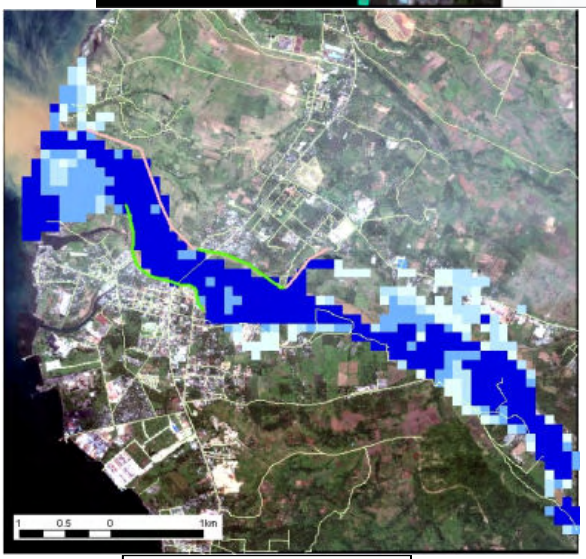
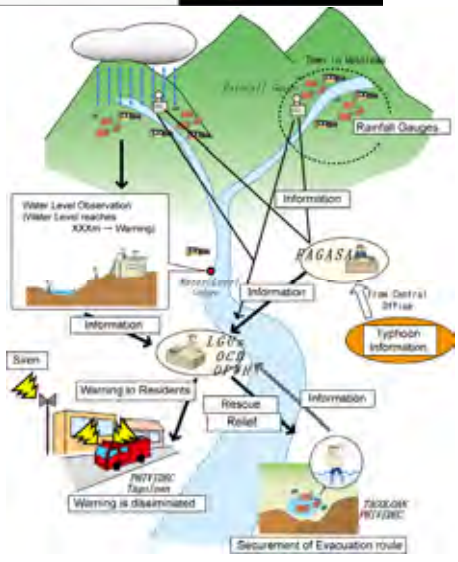


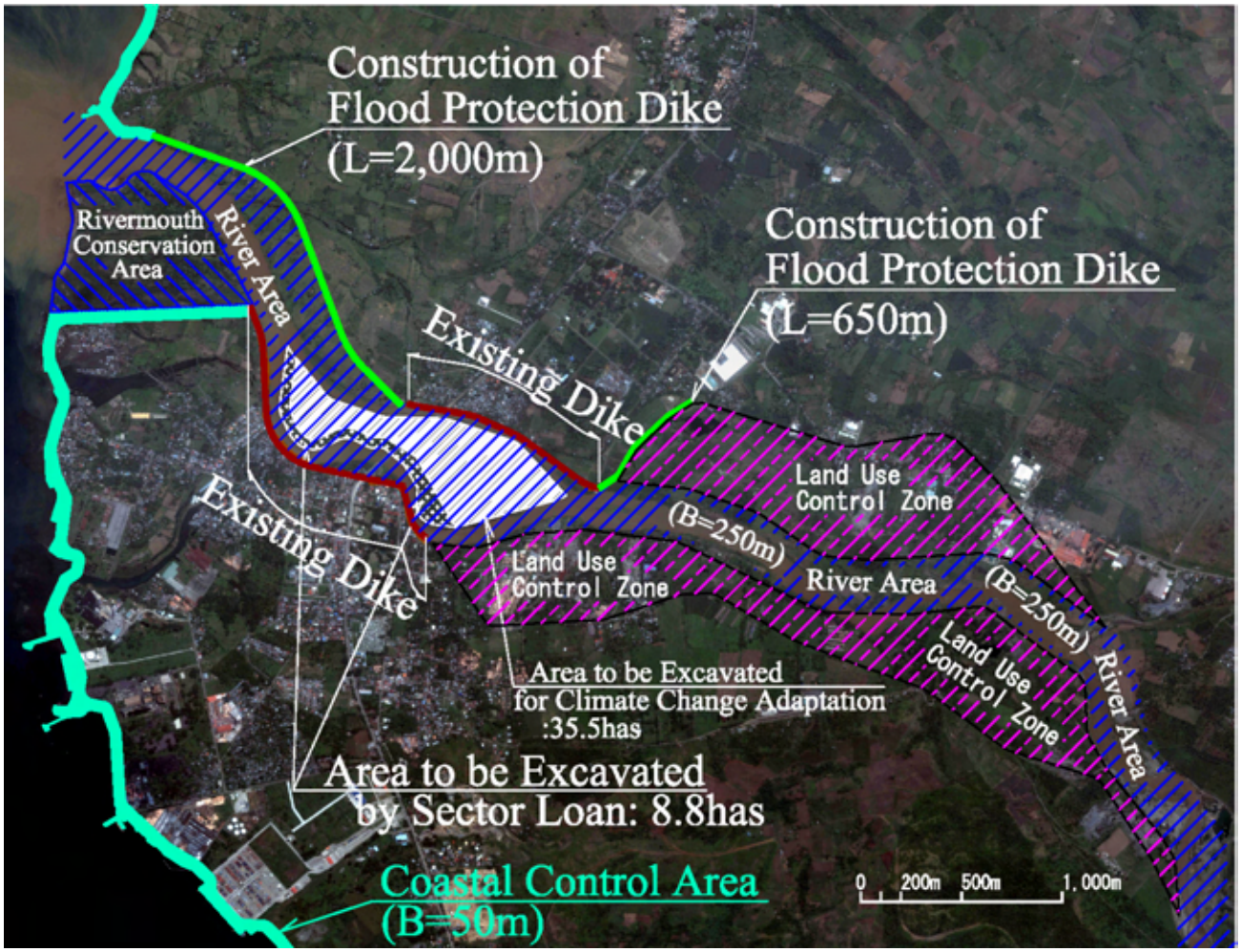


Flood Hazard map



Preparedness Plan and FEWS

THE PREPARATORY STUDY FOR SECTOR LOAN FOR DISASTER RISK MANAGEMENT	Figure8.1 Proposed Activities of Non-structural Measures For Tagoloan River Basin
CTI Engineering International Co., Ltd. Nippon Koei Co., Ltd	



THE PREPARATORY STUDY FOR SECTOR LOAN FOR DISASTER RISK MANAGEMENT	Figure 10.1 Climate Change Adaptation for Tagoloan
CTI Engineering International Co., Ltd. Nippon Koei Co., Ltd	

ANNEX

ANNEX PIIC 9-1

BIOLOGICAL SURVEY IN TAGOLOAN RIVER

(1) Survey methodology

The survey was conducted based on 1) the eye-checking on the habitats/signs and 2) interview to the local residents.

(2) Collected data

(a) Flora

Table 1 lists down the vegetation found in the area.

The table shows that vegetation in the area is made up mostly of small trees and shrubs such as the Ligas (*Semecarpus cuneiformis*), Hamindang (*Macaranga bicolor*), and others. Shrubs are represented by Sapinit (*Lantana camara*) and Kaliantan (*Leea philippinensis*).

Although there are species identified as medium to large trees, growth is stunted and restricted due to the human activities and other source of stressful activities in the area. The stunted growth may also be attributed to thin topsoil due to erosion. Such trees are the Mala-ipil (*Afzelia barneensis*), Binuang (*Octomeles sumatrana*), and Lingo-lingo (*Vitioipremna philippinensis*).

Since harsh environmental conditions prevail in the area, pioneer species are also present. These usually belong to the family Moraceae and Euphorbiaceae. They are represented by the species Antipolo (*Artocarpus blancoi*) and the Hamindang (*Macaranga bicolor*), respectively.

Palms are also present, dominant of which is the coconut (*Cocos nucifera*). Takipan (*Caryota rumphiana*) was also seen.

Vines are abundant also. Philodendrons and Malakamias (*Ailanthus triphysia*) were seen twining among the shrubs and small trees. Grass is ever present.

Table 1 Collected Species in the Project Site (Flora)

Family	Scientific Name	Common Name	Ecological Status	Ecological and Economic Importance
Anacardiaceae	*Buchanania aborescens*	Balainghasai	Tree; rare/depleted/ Endemic	Light construction material
	Semecarpus cunneiformis	Ligas	Tree; depleted/endemic	Fruites edible; medicinal value
Apocynaceae	*Ervatamia pandacaqui*	Pandakaki	Tree; common/endemic	Medicinal value, ecoligical balance
Araceae	*Philodendron erubescens*	Golden Philidendron	Vine; common	Ornamental
Araliaceae	*Scheffera odorata*	Five fingers	Woody vine; endemic	Ornamental
Ceasalpiniaceae	*Afzelia barneensis*	Mala-ipil	Tree; uncommon/ endemic	Light construction
Combretaceae	*Terminalia foetidissima*	Talisai gubat	Tree; common/ Indigenous	Shade tree, ornamental, edible fruit
Cyatheaceae	*Cyathea sp.*	Fern	Common	ornamental
Cycadaceae	*Cycas rumphii*	Pitogo	Cycad;	Ornamental

Family	Scientific Name	Common Name	Ecological Status	Ecological and Economic Importance
			common/exotic	
Datiscaceae	*Octomeles sumatrans*	Binuang	Tree; common/endemic	Light contruction; charcoal making
Euphorbiaceae	*Macarangga bicolor*	Hamindang	Tree; depleted/endemic	Wood can be used for fuel, medicinal value
Graminae	*Arundo donax*	Tambo	Grass; common	Handicrafts
	Schizostachyum sp.	Climbing bamboo	Bamboo; depleted	Ornamnetal purpose, ecological balance
Leeaceae	*Leea philippinensis*	Kaliantan	Shrub; endemic	biodiversity
Mimosaceae	*Leucaena diversifolia*	Ipil-ipil	Tree; common/ Indigenous	Fuelwood; light construction material
Moraceae	*Artocarpus blancoi*	Antipolo	Tree; common/ Indigenous	Light construction
Palmae	*Cocos nucifera*	Coconut	Palm; common/exotic	Multipurpose, medicinal value
	Caryota rumphiana	Takipan	Palm; endemic	ornamental
Polypodiaceae	*Nephrolepis sp.*	Fern	Fern; common	ornamental
Rhizoporaceae	*Carallia brachiata*	Bakauan gubat	Tree; depleted	Tanning, dyeing, fuelwood/charcoal
Sapotaceae	*Palaquium philippinense*	Malak-malak	Tree; endemic	Light construction, medicinal value
Verbenaceae	*Lantana camara*	Sapinit	Weed; common/exotic	Pesticidal; hedge plant, medicinal
	Vitioipremna philippinensis	Lingo-lingo	Tree; endemic	Heavy construction
Zingeberaceae	*Alpinia elegans*	Tagbak	Tree; indigenous	Ornamnetal

(b) Fauna

Table 2 is the list of wildlife species sighted along the different transect lines in the proposed project site.

The bird families represented in the area are Nectariniidae (sunbirds), Apodidae (swifts and swiftlets), Columbidae (pigeons), Pycnonotidae (bulbuls), Strigidae (owls), and Ploceidae (sparrows). Most of the bird species are endemic to the island. Exceptions are Himalayan swiftlets (*Collocalia brevirostris whiteheadi*) and jungle fowls (*Gallus gallus gallus*), which are resident species.

Mammalian species observed belong to families Muridae (rats) and Pteropidae (musky fruit bats). These species are endemic to the country.

Reptilian families observed to be represented are Gekkonidae (gekkos), Scincidae (skinks), and Pythonidae (pythons). Lastly, there is only one amphibian species (marine toads) which belong to family Bufonidae.

Palms, bamboos, “takipan", and ipil ipil are some of the vegetation observed along the transect line. The bird species observed along this transect is Philippine coucals (*Centropus viridis viridis*), Himalayan swiflets (*Collocalia brevirostris whiteheadi*), gray swiftlets (*Collocalia vanikorensis amelis*), glossy swiftlets (*Collocalia esculenta marginata*), and jungle fowl (*Gallus gallus*) were noted.

Aside from birds, a rat (*Rattus tanezumi*) was seen feeding on the fruits of aratilis. Furthermore, musky fruit bats (*Ptenochirus jagorii*) were seen flying over the area.

The table below shows the different animals that are still present and inhabits the proposed project site.

Table 2 Collected Species in the Project Site (Fauna)

Scientific Names	Common Names	Local Names	Family
Birds			
Aplonis panyensis panayensis	Philippine glossy starling	kalansiang	Sturnidae
Centropus viridis viridis	Philippine coucal	sabukot	Cuculidae
Collocalia brevirosris whiteheadi	Himalayan swiftlet		Apodidae
Collocalia esculenta marginata	Glossy swiftlet		Apodidae
Collocalia vanikorensis amelis	gray swiftlet		Apodidae
Cypsiurus parvus pallidior	Palm swift		Apodidae
Gallus gallus gallus	jungle fowl	labuyo	Phasianidae
Hypsipetes philippinus philippinus	Philippine bulbul		Pycnonotidae
Ninox philippensis centralis	Philippine boobook owl		Strigidae
Passer montanus malaccensis	tree sparrow	maya	Ploceidae
Phapitreron leucotis brevirostris	white-eared brown fruit dove		Columbidae
Pycnonotus goivier samarensis	Yellow-vented bulbul	tagulolla	Pycnonotidae
Rallina eurizonides eurizonoides	Phil. banded crake	tikling	Rallidae
Treron pompadora canescens	Pompadour green pigeon		Columbidae
Mammals			
Ptenochirus jagorii	musky fruit bat	kwaknit	Pteropidae
Rattus tanezumi	ricefield rat	dagang bukid	Muridae
Reptiles			
Gecko gekko	Tockay gekko	tuko	Gekkonidae
Mabuya multifasciata	common brown skink	bubuli	Scincidae
Python reticulatus	reticulated python	sawa	Boidae/ Pythonidae
Amphibians			
Bufo marinus	marine toad	palaka	Bufonidae

There are only a few species found in the area. A probable reason for this is the on-going quarrying activities as well as the presence of Industrial Estate (Phividec). These could have caused the wildlife in the area to move out and look for other food sources and suitable habitat.

Interviews with the residents (ethnobilogical survey) indicated the existence of several species of birds not sighted nor heard. These include Philippine boobook owl (*Ninox philippensis centralis*) and pompadour green pigeon (*Treron pompadora*). In addition, pythons and other species of snakes reportedly inhabit the area.

ANNEX PIIC_9-2

WATER QUALITY ANALYSIS (TAGOLOAN)

(1) Sampling points

The sampling points are shown below.

Figure 1 Sampling sites

(2) Collected data

The summary of the data is shown as below.

Table 1 Summary of Sampling Data (heavy metals)

(Unit: ppm)

Analysis	Sample 1	Sample 2	Class C waters	Method detection Limit
Total mercury	<0.0001	<0.0001	0.002	0.0001
Total Arsenic	<0.02	<0.02	0.05	0.02
Total Cadmium	<0.002	<0.002	0.01	0.01
Total Chromium	<0.005	<0.005	0.05 (hexavalent)	0.005
Total Lead	<0.01	<0.01	0.05	0.01
Total Cyanide	<0.01	<0.01	0.05	0.01

The sampling analysis data sheets are shown below.

Results of Analyses

CRL-SN-09-1990
Page 2 of 6

Customer : Center for Environmental Studies and Management, Inc.
Address : Unit 206, UAG Building, Ortigas Ave., Greenhills, San Juan, Metro Manila
Attn. : Bethela Castro - Del Nero

Customer's Project : Disaster Risk Management - Ilog-Hilabangan River Basin

Date Sampled : 28-Jul-09
Date Received : 30-Jul-09
Matrix, Units : Water, mg/L
Analysts : TPS / JBC

Tagoloan ST-1 water (Y2)

Lab. No. : 25078-14
Sample I.D. : TAG ST 1 H_2O

Analyses	Dates of Analyses	Results, as received	MDL	DLR
...S - Cold Vapor (Total Mercury)	08/06/09	< 0.0001	0.0001	0.0001
Colorimetry - SDDC (Total Arsenic)	08/07/09	< 0.02	0.02	0.02
Flame AAS (Total Cadmium)	08/04/09	< 0.002	0.002	0.002
Flame AAS (Total Chromium)	08/04/09	< 0.005	0.005	0.005
Flame AAS (Total Lead)	08/04/09	< 0.01	0.01	0.01

MDL = Method Detection Limits
DLR = Detection Limits for Reporting (MDL x Dilution Factor)
References: Standard Methods for the Examination of Water and Wastewater, APHA, AWWA, WEF, 21st Edition.
Test Methods for Evaluating Solid Wastes, Vol 1A, USEPA, Third Edition
Varian / Perkin Elmer Analytical Methods, Flame Atomic Absorption Spectrophotometry

I ewed By: _____ Date: 8/3/09
Chas C. Arroyo
Laboratory Manager
PRC License No.: 6701

Approved By: _____ Date: 8/3/09
Maria Carmela Q. Tapule
Laboratory Director
PRC License No.: 7663

CRL Environmental Corporation
* Sales Office: Unit 609 Cityland 10 Tower 1 * 6815 H.V dela Costa, Ayala Ave., North * Makati City, Philippines 1226
Tel: (632) 840-4071 ; (632) 817-5307 * Fax: (632) 816-0329 * E-mail: crl@crllabs.com. * http://www.crllabs.com
* Laboratory: Bldg. 2, Berthaphil Compound 1, Berthaphil Inc. Industrial Park
Jose Abad Santos Ave., CFZ Clarkfield Pampanga, Philippines
Tel.: (6345) 599-3943 * (6345) 499-6529 * (632) 299-5826 * Fax (6345) 599-3963

Result of Analysis

CRL-SN-09-1990
Page 3 of 6

Customer : Center for Environmental Studies and Management, Inc.
Address : Unit 206, UAG Building, Ortigas Ave., Greenhills, San Juan, Metro Manila
Attn. : Bethela Castro - Del Nero

Customer's Project : Disaster Risk Management - Ilog-Hilabangan River Basin

Date Sampled : 28-Jul-09
Date Received : 30-Jul-09
Date Analyzed : 04-Aug-09
Matrix, Unit : Water, mg/L
Analyst : ESG

Tagoloan ST-1 water (2/2)

Lab. No. : 25078-15
Sample I.D. : TAG ST 1 H_2O CN

Analysis	Result, as received	MDL	DLR
Distillation - ISE (Total Cyanide)	< 0.01	0.01	0.01

MDL = Method Detection Limit
DLR = Detection Limit for Reporting (MDL x Dilution Factor)
Reference: Standard Methods for the Examination of Water and Wastewater, APHA, AWWA, WEF, 21st Edition.

Reviewed By: _____ Date: 8/17/09
Chas C. Arroyo
Laboratory Manager
PRC License No.: 6701

Approved By: _____ Date: 8/17/09
Maria Carmela Q. Capule
Laboratory Director
PRC License No.: 7663

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Results of Analyses

CRL-SN-09-1990
Page 5 of 6

Customer : Center for Environmental Studies and Management, Inc.
Address : Unit 206, UAG Building, Ortigas Ave., Greenhills, San Juan, Metro Manila
Attn. : Bethela Castro - Del Nero

Customer's Project : Disaster Risk Management - Ilog-Hilabangan River Basin

Date Sampled : 28-Jul-09
Date Received : 30-Jul-09
Matrix, Units : Water, mg/L
Analysts : TPS / JBC

Tagoloan ST-2 water (½)

Lab. No. : 25078-17
Sample I.D. : TAG ST 2 H_2O

Analyses	Dates of Analyses	Results, as received	MDL	DLR
AAS - Cold Vapor (Total Mercury)	08/06/09	< 0.0001	0.0001	0.0001
Colorimetry - SDDC (Total Arsenic)	08/07/09	< 0.02	0.02	0.02
Flame AAS (Total Cadmium)	08/04/09	< 0.002	0.002	0.002
Flame AAS (Total Chromium)	08/04/09	< 0.005	0.005	0.005
Flame AAS (Total Lead)	08/04/09	< 0.01	0.01	0.01

MDL = Method Detection Limits
DLR = Detection Limits for Reporting (MDL x Dilution Factor)
References: Standard Methods for the Examination of Water and Wastewater, APHA, AWWA, WEF, 21st Edition.
Test Methods for Evaluating Solid Wastes, Vol 1A, USEPA, Third Edition / 1988 Annual Book of ASTM Standards, Volume 11.01
Varian / Perkin Elmer Analytical Methods, Flame Atomic Absorption Spectrophotometry

Reviewed By: _____ Date: 8/17/09
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Result of Analysis

CRL-SN-09-1990
Page 6 of 6

Customer : Center for Environmental Studies and Management, Inc.
Address : Unit 206, UAG Building, Ortigas Ave., Greenhills, San Juan, Metro Manila
Attn. : Bethela Castro - Del Nero

Customer's Project : Disaster Risk Management - Ilog-Hilabangan River Basin

Date Sampled : 28-Jul-09
Date Received : 30-Jul-09
Date Analyzed : 04-Aug-09
Matrix, Unit : Water, mg/L
Analyst : ESG

Tagoloan ST-2 water (1/2)

Lab. No. : 25078-18
Sample I.D. : TAG ST 2 H_2O CN

Analysis	Result, as received	MDL	DLR
Distillation - ISE (Total Cyanide)	< 0.01	0.01	0.01

MDL = Method Detection Limit
DLR = Detection Limit for Reporting (MDL x Dilution Factor)
Reference: Standard Methods for the Examination of Water and Wastewater, APHA, AWWA, WEF, 21st Edition.

Reviewed By: _____ Date: 8/12/09
Chas C. Arroyo
Laboratory Manager
PRC License No.: 6701

Approved By: _____ Date: 8/12/09
Maria Carmela C. Capule
Laboratory Director
PRC License No.: 7663

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ANNEX PIIA_9-3

NOISE MEASUREMENT (TAGOLOAN)

(1) Sampling date/points

Conducted date: July 16, 2009

Sampling points: (Figure 1 Sampling sites)

(1) At the dike near Bridge
(2) At Pumping Station
(3) At western part of dike

The noise sampling stations were positioned at the nearest residential community to determine the possible impact of noise during the construction period.

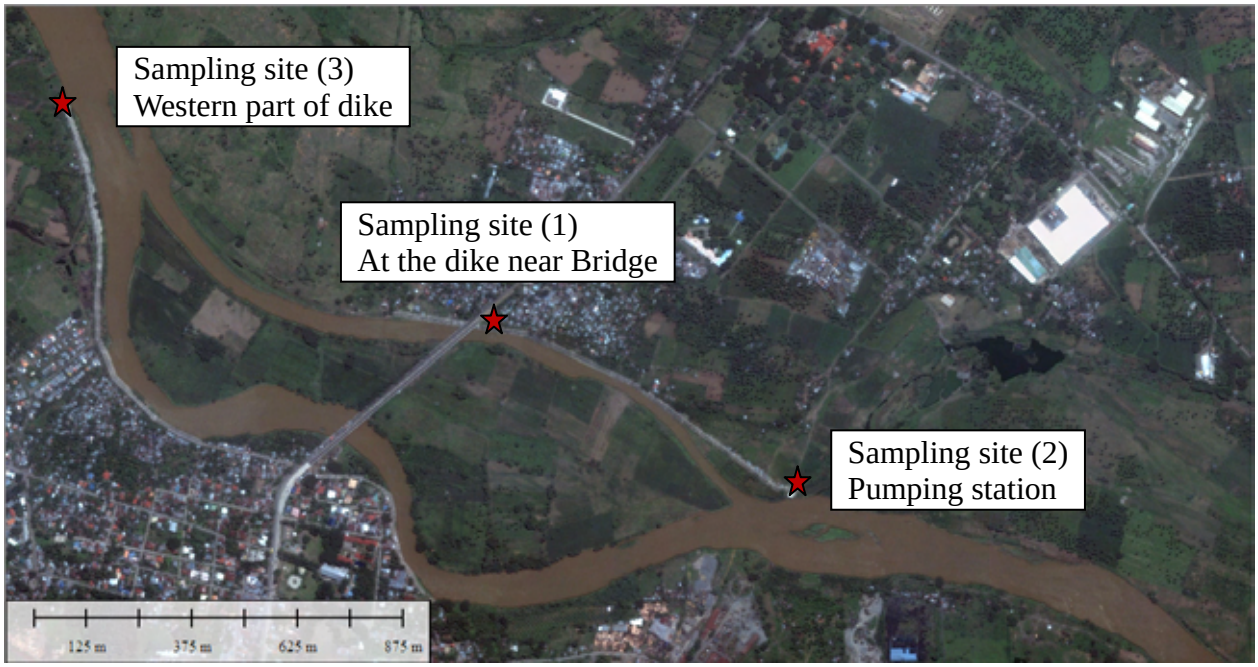


Figure 1 Sampling sites

(2) Measurement instrument

A precision type, digital sound level meter using the method prescribed in the implementing rules and regulations of PD 984. The instrument is also provided with an integral calibrator which is allows the instrument to be calibrated to 94dB. The minimum and maximum of continuous readings were recorded in each station. The median values were then taken and compared with the DENR noise standards based on the 1978 Rules and Regulations of PD 984.

(3) Collected data

The measurement result is shown as below.

Table 1 Results of Noise Sampling

Station	Distance	Time	Min. (dBA)	Max. (dBA)	Median (dBA)	DENR Std. (dbA)	Categogy of Area	Remarks
At the dike near Bridge								
	10 meters planed dike	Morning (6:20am)	50	78.3	64.15	50	Class A	Exceeded
		Noon (11:30 am)	64	78.5	71.25	50	Class A	Exceeded
		Evening (6:50pm)	56	75	65.5	50	Class A	Exceeded
	15 meters from planed dike	Morning (6:40am)	48	75.4	61.7	55	Class A	Exceeded
		Afternoon (12:00 noon)	58	78	68	55	Class A	Exceeded
		Evening (7:20pm)	54	65	59.5	55	Class A	Exceeded
Pumping Station								
	10 meters from planed dike	Morning (8:10am)	48.2	55	51.6	55	Class A	within
		Afternoon (1:40pm)	43.8	58	50.9	55	Class A	within
		Evening (5:10pm)	45.2	59	52.1	55	Class A	within
	20 meters from planed dike	Morning (7:50am)	45.2	61	53.1	55	Class A	within
		Afternoon (2:00pm)	43.5	62	52.75	55	Class A	within
		Evening (5:20pm)	44.8	56	50.4	55	Class A	within
Western part of dike								
	10 meters from planed dike	Morning (8:40am)	44.3	55.5	49.6	65	Class A	within
		Afternoon (12:40pm)	43.2	54.6	59.4	70	Class A	within
		Evening (6:00pm)	42.6	48	55.9	60	Class A	within
	15 meters from planed dike	Morning (9:20am)	45.3	54.6	51.5	65	Class A	within
		Afternoon (1:20pm)	50.6	53.3	56.9	70	Class A	within
		Evening (6:20pm)	43.2	49	54.3	60	Class A	within

The noise standards may be considered as Class A since the area is primarily used for residential purposes. Thus, the results of the sound level measurement are compared to the daytime standard for Class A area.

The samples were made at the diked areas, the first near the bridge, the second at the northern dike near the pumping station and the third at the southern dike at westernmost portion. There were some exceedances in the noise parameters at the bridge because of the passing through of vehicles, especially trucks, in the area which are often noisy and without noise retardants. In the other sites, however, there are no roads that will allow the passing of vehicles near the area.

(4) Noise Standard

The country implements an Environmental Quality Standard for noise in general areas as outlined in Presidential Decree (PD) 984, or the Pollution Control Law of the Philippines. The noise standards specify the allowable level of noise based on category of area as outlined Table 2.

Table 2 Environmental Quality Standards for Noise in General Areas

Category of Area	Daytime	Morning & Evening	Nighttime
AA	50 dB	45 dB	40 dB
A	55 dB	50 dB	45 dB
B	65 dB	60 dB	55 dB
C	70 dB	65 dB	60 dB
D	75 dB	70 dB	65 dB

Source: Official Gazette, 1978 Implementing Rules and Regulations of P.D. 984.

Legend:

Category of Area is as follows:

AA - a section or contiguous area which require quietness such as area within 100 meters from school sites, nursery schools, hospitals, and special home for the aged.

A - a section or contiguous area primarily used for residential purposes.

B - a section or contiguous area primarily used as commercial area.

C - a section primarily reserved as a light industrial area.

D - a section primarily reserved as a heavy industrial area.

Division of 24-hour period is as follows:

Morning - 5:00 AM to 9:00 AM
Daytime - 9:00 AM to 6:00 PM
Evening - 6:00 PM to 10:00 PM
Nighttime- 10:00 PM to 5:00 AM.

ANNEX PIIC_9-4

LAND-SUE IN MUNICIPALITY TAGOLOAN

Table 1 Land-use in Municipality Tagoloan

Land Use Type	Area (hectares)	% to Total
Built-up Areas (residential, institutional, commercial, open spaces)	1,035.65	13.05
Industrial areas	1,455.27	18.33
Agricultural lands		
Production	2,664.34	33.56
Protection	628.92	7.92
Forest lands		
Production	1,388.46	17.49
Protection	160.34	2.02
Agro-Industrial Areas	160.44	2.02
Utilities	7.43	0.09
Grasslands	391.25	4.93
Quarry Lands	45.81	0.58
Total	7,937.90	100.00

As one can see, a large percentage of Tagoloan has been zoned industrial. This is because of the presence of a large industrial estate owned by a government owned and controlled corporation, the Philippine Veterans Investment Development Corporation (PHIVIDEC).

Of the areas planted to crops, the following land uses are relevant;

Table 2 Crop-Wise Land use of agriculture Land in Municipality Tagoloan

Classification	Crop Area (hectares)				
	2003	2004	2005	2006	2007
Rice (Irrigated)	NA	89.00	35.00	30.00	30.00
Rice (Lowland /Rain-fed)	52.25	NA	NA	10.00	25.00
Rice (upland)	60.75	NA	10.00	5.00	NA
Corn	523.75	595.00	596.00	837.25	443.50
Coconut	NA	NA	450.00	NA	NA
Banana	5.00	11.00	73.50	81.00	86.00
Papaya	30.00	NA	NA	32.00	32.00
Mango	0.50	0.25	24.00	24.50	26.00
Peanut	0.50	0.50	NA	NA	NA
Vegetables	18.00	15.16	15.00	20.00	22.00
Root Crops	30.00	10.00	10.00	10.00	12.00
Cashew	6.00	NA	5.00	5.00	5.00
Total	726.75	720.91	1,218.50	1,054.75	681.50

(Note: “NA” means not available data)

As one may note, there is some variability in the area devoted to agriculture through the years. This municipality attributed to a series of factors, among them are:

- Reclassification of agricultural land to industrial land
- High cost of production inputs
- Inefficient marketing system
- Prevalence of calamities
- Pests
- Disregard of farmers of modern farming practices

- Unstable prices of agricultural products
- Inefficient water supply or irrigation

Majority of the agricultural areas are planted to corn which the farmers believed would yield more return for their investments

ANNEX PIIC_9-5

PROFILE OF PEOPLE IN/AROUND THE PROJECT SITE

IN TAGOLOAN

(a) Location of respondents

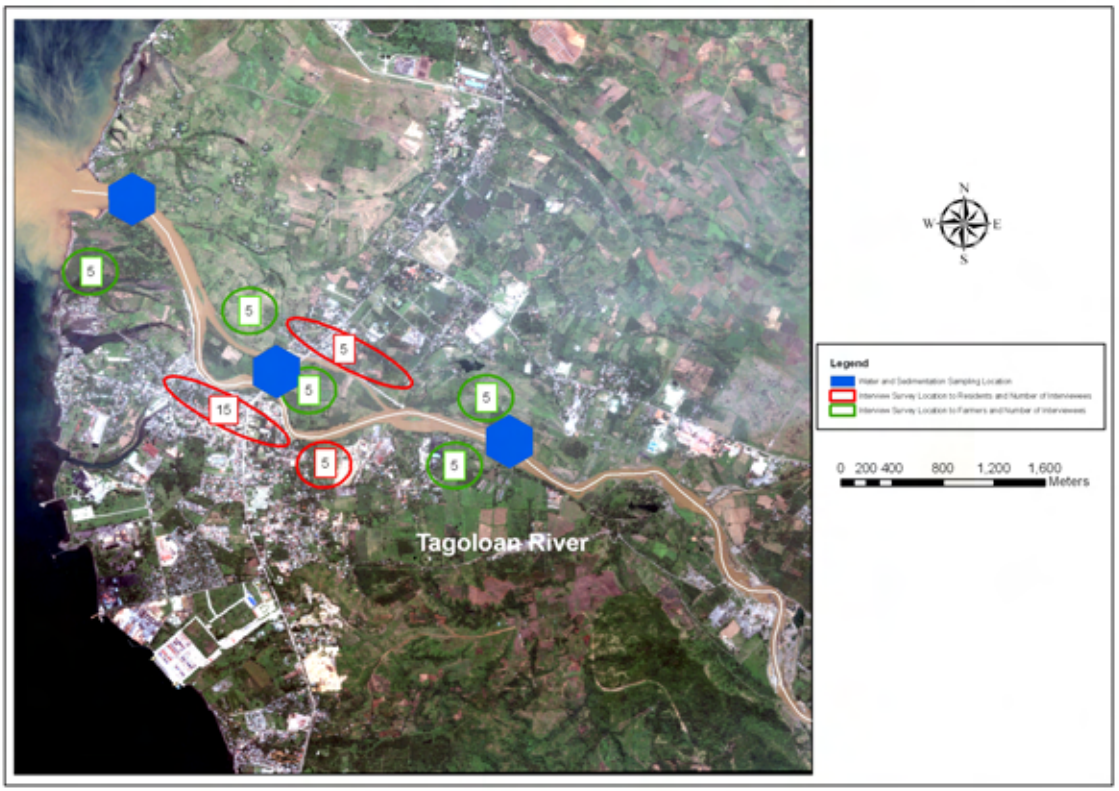
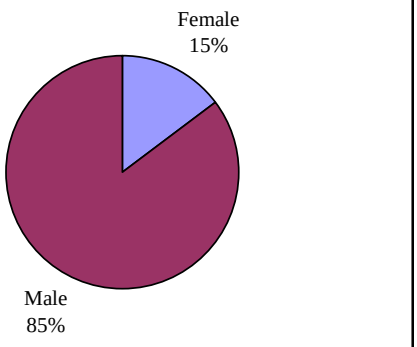


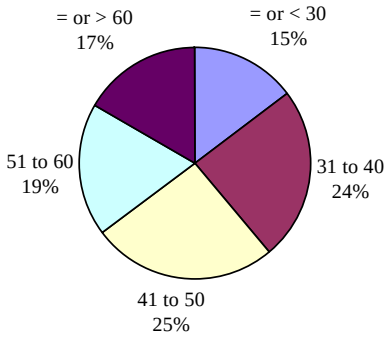
Figure 1 Location of Respondents

(b) Household (HH) heads and family

Gender and age of HH heads



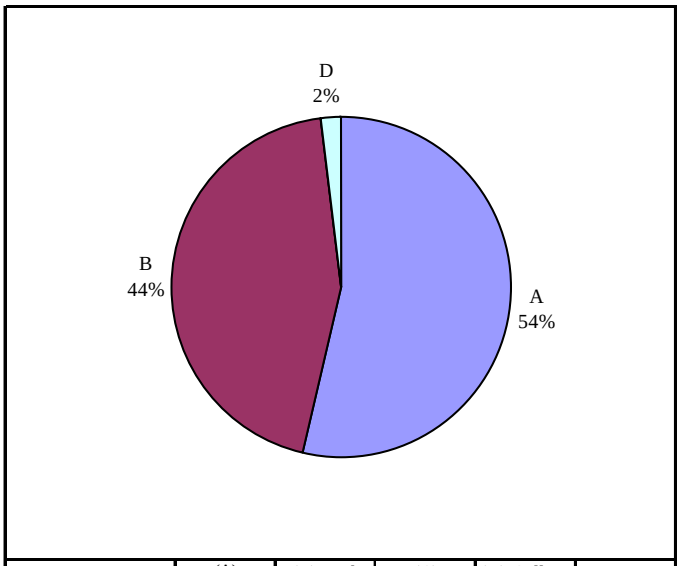
Classification	Female	Male	Total
No. of responds	8	46	54



Classification	= or < 30	31 to 40	41 to 50	51 to 60	= or > 60
No. of responds	8	13	14	10	9

Figure 2 Gender and age of HH Heads

Education of HH heads

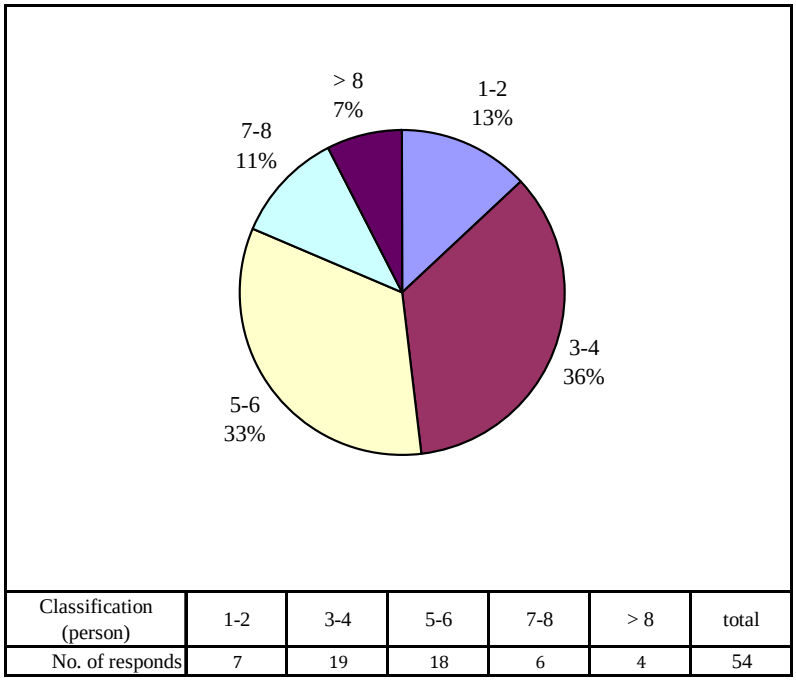


Classification	(A) Elementary level or graduate	(B) High school level or graduate	(C) Vocational/ diploma level or graduate	(D) College level or graduate	Total
No. of responds	29	24	0	1	54

Source: JICA Study Team

Figure 3 HH Heads Education

Family composition



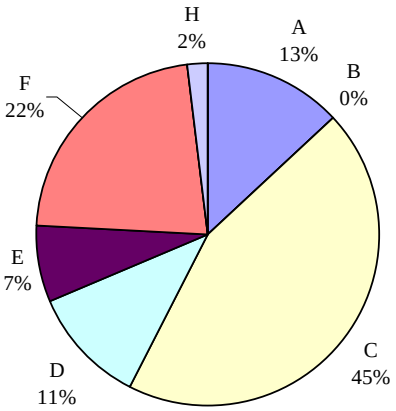
Classification (person)	1-2	3-4	5-6	7-8	> 8	total
No. of responds	7	19	18	6	4	54

Source: JICA Study Team

Figure 4 Total Numbers of family Members

(c) Economic condition

Income source of HH heads



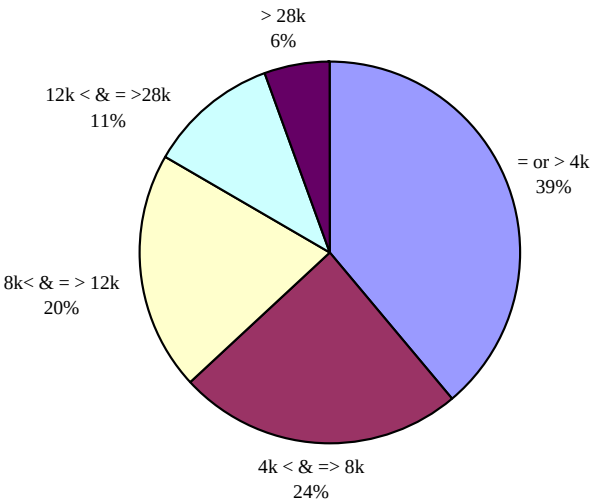
A: Employment *E: Technical/Machine works or Carpentry/Masonry/Construction*
B: Business/Sales *F: Casual workers*
C: Agriculture (farming) *G: Pension*
D: Fishing/Fish related activitie or Driving *H: No Source of Income* *I: Others*

Classification	A	B	C	D	E	F	G	H	I	Total
No. of responds	7	0	24	6	4	12	0	1	0	54

Source: JICA Study Team

Figure 5 Income Source of HH Heads

Family income



k: thousand Pesos

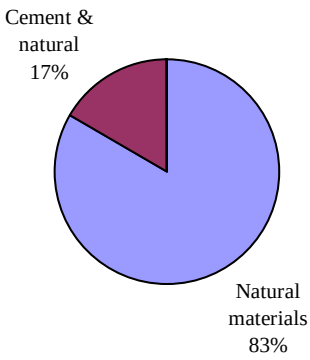
Classification	= or > 4k	4k < & => 8k	8k< & = > 12k	12k < & = >28k	> 28k	Total
No. of responds	21	13	11	6	3	54

Source: JICA Study Team

Figure 6 Family Income per Month of Respondents

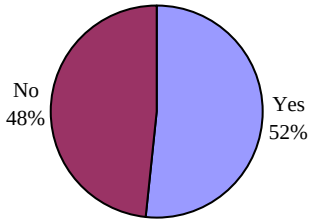
(d) Life condition of HHs

House size and material, Electricity, Water supply and Toilet location



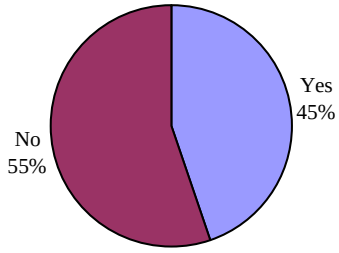
Housing materials

Classification	Natural materials	Cement & natural	Concrete	Others	Total
No. of responds	25	5	0	0	30



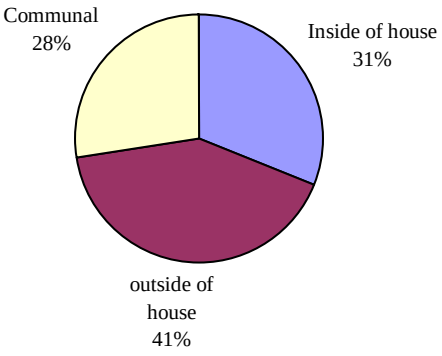
Electricity service connection

Classification	Yes	No	Total
No. of responds	15	14	29



Water service connection

Classification	Yes	No	Total
No. of responds	13	16	29



Location of the toilet used by the family

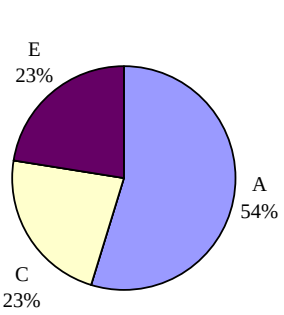
Classification	Inside of house	outside of house	Communal	Others	Total
No. of responds	9	12	8	1	30

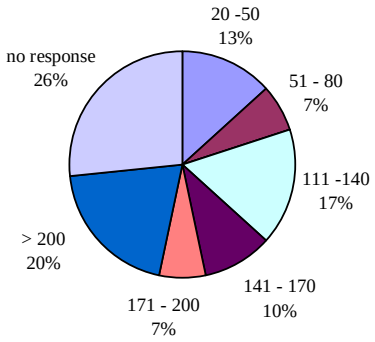
Source: JICA Study Team

Figure 7 Life Conditions of Residents

(e) Property

House ownership and size





[House own condition]
A: Family Owned
B: Owned by the Relative (Renting)
C: Owned by the Relative (Rent-Free)
D: Privately Owned (Renting)
E: Privately Owned (Rent-Free)
F: No response
[House own condition]

[House area]

Classification	A	B	C	D	E	Total
No. of responds	17	0	7	0	7	31

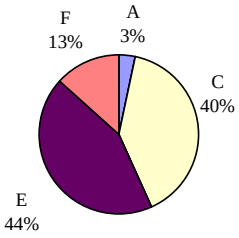
[House area]

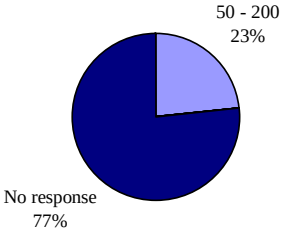
Classification (Unit:m^2)	20 -50	51 - 80	81 - 110	111 -140	141 - 170	171 - 200	> 200	no response	Total
No. of responds	4	2	0	5	3	2	6	8	30

Source: JICA Study Team

Figure 8 House ownership and size of Residents

Land ownership and size





[Lot own condition]
A: Family Owned
B: Owned by the Relative (Renting)
C: Owned by the Relative (Rent-Free)
D: Privately Owned (Renting)
E: Privately Owned (Rent-Free)
F: No Response
[House own condition]

[Lot area]

Classification	A	B	C	D	E	F	Total
No. of responds	1	0	12	0	13	4	30

[House area]

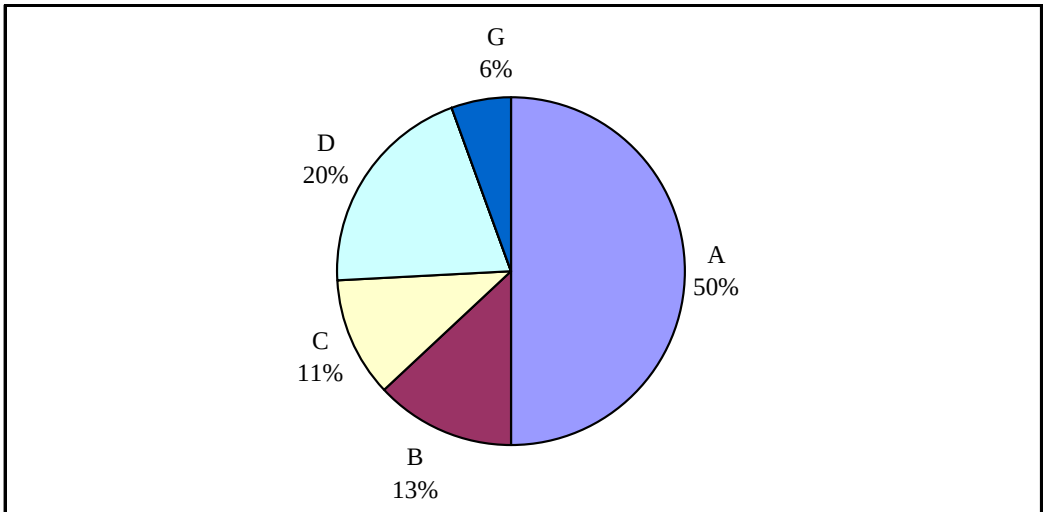
Classification (Unit:m^2)	50 - 200	201 - 350	351 - 500	501 - 650	651 - 800	801 - 950	951 - 1100	> 1100	No response	Total
No. of responds	7	0	0	0	0	0	0	0	23	30

Source: JICA Study Team

Figure 9 House ownership and size of Residents

(f) Opinion on the Project

Opinion on relocation



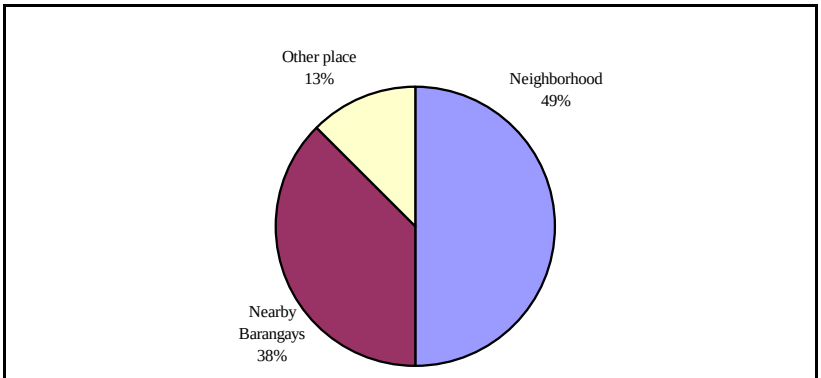
A: Agree
B: Agree, given an acceptable conditions
C: Agree, will follow the decisions of the LGUs
D: Suspending (need time & information)
E: Disagree
F: Other answer
G: No Response

	A	B	C	D	E	F	G	Total
Residents	16	5	3	5	0	0	1	30
Farmers	11	2	3	6	0	0	2	24
total	27	7	6	11	0	0	3	54

Source: JICA Study Team

Figure 10 Opinion on relocation

Relocation site



Classification	Neighborhood	Nearby Barangays	Other place	Total
No. of responds	12	9	3	24

Source: JICA Study Team

Figure 11 Opinion on relocation site

ANNEX PIIC_9-6

QUESTIONNAIRE FOR INTERVIEW SURVEY

ANNEX A
Questionnaire for Affected Households

QUESTIONNAIRE

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT SURVEY FOR THE PREPARATORY STUDY FOR SECTOR LOAN ON DISASTER RISK MANAGEMENT IN THE REPUBLIC OF THE PHILIPPINES

Magandang araw po sa inyo, ako po ay mula sa Center for Environmental Studies and Management, kasama ng grupo ng Japan International Cooperation Agency at CTI Engineering, International Co., Ltd na gumagawa ng pag-aaral tungkol sa ***Environmental and Social Impact Assessment Survey for the Preparatory Study for Sector Loan on Disaster Risk Management in the Republic of the Philippines****. Nais ko pong malaman ninyo na ang mga impormasyong ibibigay ninyo sa amin sa panayam na ito ay gagamitin po namin sa pag-aaral at ang inyong katauhan gayundin ang inyong mga sagot ay ituturing naming lihim. Sa inyo pong pagsagot, tandaan po nating walang tama o maling sagot, kinakailangan lamang po namin ang inyong matapat na kasagutan.*

Respondent No.

Interviewer: _____ Date of Interview: _____

Address of Interviewee: _____

Contact Number: _____

MGA TANONG PARA SA BAHAY LAMANG ANG APEKTADO NG PROYEKTO

Pangkalahatang Impormasyon (General Information)

1. Pangalan ng Respondent: _____
2. Edad: _____ Araw ng kapanganakan:_____ (mm/dd/year)
3. Kasarian: _____babae _____ lalaki (paki-tsek)
4. Katayuang Sibil: ____ binata/dalaga ____ may-asawa ____balo (paki-tsek)
5. Pinakamataas na antas ng pinag-aralan: _____
6. Pangunahing pinagkakakitaan/hanapbuhay: _____ (tukuyin)
7. Buwanang kita (Php) : _____

8. Iba pang pinagkakakitaan ng respondent:_____ Kita (Php): _____
9. Layo ng pinagtatrabahuhan: _____ Magkano ang pamasahe, ilang sakay? ____(kung angkop)
10. Saang katutubong grupo po kayo kabilang(kung angkop)? _____

Pangalan ng mga Kasama sa bahay	**Edad**	**Kasarian**	**Estado sibil**	**Antas ng pinag-aralan**	**Pangunahing Hanapbuhay /Pinagkakakitaan**	**Buwanang kita**	**Layo ng Trabaho/Lugar /Fare Cost**	**Iba pang pinag-kakakitaan**
(Head)								
Asawa								
Anak								
Anak								
Anak								
Anak								
Nakatatanda								
Mga May Kapansanan								
Kabuuang bilang ng miyembro ng pamilya:						Kabuuang kita ng pamilya:		

(Note to Enumerator: Ask specific level of education, source of income and income per month-then total the income on the space)

11. Anu-ano pa po ang mga uri ng hanapbuhay/pinagkakakitaan ang alam ninyong gawin bukod sa ginagawa ninyo sa kasalukuyan?
    _____
    _____
    _____
    _____
12. Anu-ano pong skills/kaalaman ang mayroon kayo ngayon?
    _____
13. Anu-ano pa pong skills/kaalaman ang gusto ninyong matutunan?
    _____

Struktura ng Bahay at Pamumuhay

14. Ang inyong bahay ay yari sa _____ pinagsama-samang materyales
    _____ bahagyang sementado (kahoy at semento)

_____ kabuuang bahay ay sementado

_____ iba pa (pakitukoy) _____

15. Pagmamay-ari ng lote/lupa at bahay:

Item	Kabuuang Sukat (m^2)[1]	Pag-aari ng pamilya[2]	Pag-aari ng Kamag-anak[3]		Pribadong Pag-aari[4]	
			Rental (Php/mon)	Walang Renta/Libre	Rental (Php/mon)	Walang Renta/Libre
Lupa						
Bahay						

1 Sa sukat ng bahay: Kabuuang *floor area*

2 Pag-aari ng kahit sinong miyembro ng pamilya na nakatira sa iisang bahay.

3 Pag-aari ng kamag-anak na hindi kasama sa bahay

4Hindi kaano-ano ang may-ari, pakitukoy ang dahilan kung bakit walang bayad ang pagpapagamit ng lote at bahay

16. Kung pag-aari ang bahay at lote,magkano ang aktuwal na halaga ng mga ito?

Lote (Php) _____ Bahay (Php)_____

Household Utilities

17. Kayo po ay konektado sa suplay ng kuryente? _____ oo _____ hindi, bakit po? _____ _____

18. Maari po bang malaman kung magkano ang huling pinagbayaran ninyo sa kuryente? _____ (Php), kung wala, bakit po? _____ _____

19. Kayo po ba ay konektado sa suplay ng tubig? _____ oo _____ hindi, bakit po? _____ _____

20. Maari po bang malaman kung magkano ang huling pinagbayaran ninyo sa tubig? _____ (Php),

kung wala, bakit po? _____ _____

21. Ang ginagamit na palikuran ng pamilya ay nasa:

_____ loob ng bahay (de-flush) _____ loob ng bahay (de-buhos)

_____ labas ng bahay, pamilya lamang ang gumagamit, ____(de-flush) _____(de-buhos)

_____ komunal; _____ (de-flush) _____ (de-buhos)

_____ iba pa, pakitukoy _____

Opinyon at Pananaw tungkol sa Proyekto

22. Nais po naming malaman kung nitong mga nakaraang taon/buwan ay nakaranas kayo ng pagbaha dito sa inyong lugar? _____ oo hindi_____

23. Kung oo, kailan ninyo po huling naranasan ang pagbaha? Kailan ninyo naman po naranasan ang pinakamalakas?

Pinakahuling naranasan: Taon ( ), Pangalan ng bagyo ( ), Taas ng baha mula sa lupa ( )cm
Pinakamalakas: Taon ( ), Pangalan ng bagyo ( ), Taas ng baha mula sa lupa ( )cm

24. Kung tatantiyahin, gaano po kataas ang baha?

_____ lampas bukong-bukong

_____ hanggang tuhod

_____ lampas tuhod

_____ iba pa, pakitukoy

25. Kinailangan ninyo po bang lumisan (*evacuate*) sa inyong tahanan dahil sa pagbaha?

_____oo _____hindi

26. Kung oo, saan kayo tumuloy?

_____ sa kamag-anak, katabing barangay

_____ sa kamag-anak, sa ibang bayan

_____ sa mga paaralan o evacuation centers

_____ iba pa, pakitukoy

27. Kung kakailanganin po na kayo ay lumipat ng lugar na tinutuluyan upang bigyang daan ang proyektong ito, kayo po ba ay:

_____Sang-ayon

_____Sang-ayon kung katanggap-tanggap ang mga kondisyon

_____Sang-ayon, (susundin ang desisyon ng Gobyerno, Pamunuan ng Barangay, Resulta ng Konsultasyon sa Komunidad at iba pa).

_____Pag-iisipan pa, kukuha ng mga impormasyon na makakatulong sa pag de-desisyon

_____Hindi sasang-ayon; pakitukoy ang dahilan _____
_____
_____
_____

_____ Iba pa, pakitukoy_____
_____

_____
_____

Para sa mga sumang-ayon:

28. Kung kayo ay bibigyan ng pagkakataon na pumili ng lugar na inyong lilipatan ito ay sa:

_____ kapitbahayan

_____ katabing barangay (na nasa bayan rin),pakitukoy_____

_____ sa ibang bayan, pakitukoy _____

_____ sa ibang lugar, pakitukoy _____

29. Sa inyong palagay, gaano kalayo ang magiging distansya ng relokasyon upang maiwasan ang problema sa trabaho o pagkakakitaan? (mga ilang sakay mula rito)

_____ walking distance

_____ isang sakay

_____ dalawang sakay

_____ tatlong sakay

_____ iba pa, pakitukoy

30. Kung sakaling mawalan kayo ng trabaho dahil sa paglipat, sasang-ayunan po ba ninyo ang pagpapalit ng trabaho?

_____ oo, posible na makahanap ako ng trabaho

_____ oo, kung makakatanggap ako ng sapat na bokasyunal na kaalaman mula sa gobyerno

_____ hindi madaling sabihin sa ngayon

_____ iba pang dahilan, pakitukoy_____

Magandang Araw at Maraming Salamat po!

NOTES:

ANNEX B
Questionnaire for Affected Tenants/Farmers

QUESTIONNAIRE

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT SURVEY FOR THE PREPARATORY STUDY FOR SECTOR LOAN ON DISASTER RISK MANAGEMENT IN THE REPUBLIC OF THE PHILIPPINES

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Tenant Farmer _____ Fish Cultivator _____ (paki-tsek)

Respondent No.

Interviewer: _____ Date of Interview: _____

Address of Interviewee: _____

Contact Number: _____

TANONG PARA SA TENANT FARMERS/FISH CULTIVATORS (OFF-SITE)

Pangkalahatang Impormasyon (General Information)

31. Pangalan ng Respondent: _____ _____

32. Edad: _____ Araw ng kapanganakan:_____ (mm/dd/year)

33. Kasarian: _____babae _____ lalaki (pakitsek)

34. Katayuang Sibil: ____ binata/dalaga ____ may-asawa ____balo (paki-tsek)

35. Pinakamataas na antas ng pinag-aralan: _____

36. Pangunahing pinagkakakitaan/hanapbuhay: _____ (tukuyin)

37. Buwanang kita (Php) : _____

38. Iba pang pinagkakakitaan ng respondent:_____ Kita (Php): _____

39. Layo ng pinagtatrabahuhan: _____ Magkano ang pamasahe, ilang sakay? ____(kung angkop)

40. Saang katutubong grupo po kayo kabilang (kung angkop)?
_____

Pangalan ng mga Kasama sa bahay	**Edad**	**Kasarian**	**Estado sibil**	**Antas ng pinag-aralan**	**Pangunahing Hanapbuhay /Pinagkakakitaan**	**Buwanang kita**	**Layo ng Trabaho/Lugar /Fare Cost**	**Iba pang pinag-kaka kitaan**
(Head)								
Asawa								
Anak								
Anak								
Anak								
Anak								
Nakatatanda:								
Mga May Kapansanan								
Kabuuang bilang ng miyembro ng pamilya:						Kabuuang kita ng pamilya:		

(Note to Enumerator: Ask specific level of education, source of income and income per month-then total the income on the space)

41. Anu-ano pa po ang mga uri ng hanapbuhay/pinagkakakitaan ang alam ninyong gawin bukod sa ginagawa ninyo sa kasalukuyan?
_____
_____
_____
_____

42. Anu-ano pong skills/kaalaman ang mayroon kayo ngayon?
_____

43. Anu-ano pa pong skills/kaalaman ang gusto ninyong matutunan?
_____

44. ***Lawak ng Sakahan ng Magsasaka/Lawak ng Fishpond ng Fish Cultivator*** *(kabuuang sakahan/fishpond at apektadong parte ng sakahan/fishpond na pag-aari ng apektadong magsasaka/fish cultivator)*

Pakilagay ang mga impormasyong kinakailangan:

Kabuuang Sukat ng Sakahan/Fishpond (ha)			**Sukat ng Apektadong Sakahan/Fishpond (ha)**		
Pag-aari (Own-Operated)	**Inuupahan (Tenant)**	**Kabuuang sukat**	**Pag-aari (Own-Operated)**	**Inuupahan (Tenant)**	**Kabuuang sukat**

45. ***Crop Cultivation of Farmland/Fishpond*** *(apektadong sakahan/fishpond ayon sa uri ng pananim at fishpond species ng apektadong magsasaka/fish cultivator)*

Pakilagay ang mga impormasyong kinakailangan:

Pananim/Fishpond Species	**Lawak ng Apektadong Sakahan/Fishpond (ha)**	**Lawak ng Produktibong Sakahan/Fishpond kada Taon (ha)**			**Uri ng Pananim/Fishpond species**
		Kabuuang Lawak ng pinagkukunan ng Ani/Huli (kada anihan)	**Panahon ng pag-ani/Pag-huli kada taon**	**Kabuuan**	
Total					

Opinyon at Pananaw tungkol sa Proyekto

46. Nais po naming malaman kung nitong mga nakaraang taon/buwan ay nakaranas kayo ng pagbaha dito sa inyong lugar? _____ oo hindi_____

47. Kung oo, kailan ninyo po huling naranasan ang pagbaha? Kailan ninyo naman po naranasan ang pinakamalakas?

Pinakahuling naranasan: Taon ( ), Pangalan ng bagyo ( ), Taas ng baha mula sa lupa ( )cm
Pinakamalakas: Taon ( ), Pangalan ng bagyo ( ), Taas ng baha mula sa lupa ( )cm

48. Kung tatantiyahin, gaano po kataas ang baha?

_____ lampas bukong-bukong

_____ hanggang tuhod

_____ lampas tuhod

_____ iba pa, pakitukoy

49. Kinailangan ninyo po bang lumisan (*evacuate*) sa inyong tahanan dahil sa pagbaha?

_____oo _____hindi

50. Kung oo, saan kayo tumuloy?

_____ sa kamag-anak, katabing barangay

_____ sa kamag-anak, sa ibang bayan

_____ sa mga paaralan o evacuation centers

_____ iba pa, pakitukoy

51. Kung sakaling maapektuhan ang inyong lupain upang bigyang daan ang proyektong ito, kayo po ba ay:

_____Sang-ayon

_____Sang-ayon kung katanggap-tanggap ang mga kondisyon

_____Sang-ayon, (susundin ang desisyon ng Gobyerno, Pamunuan ng Barangay, Resulta ng Konsultasyon sa Komunidad at iba pa).

_____Pag-iisipan pa, kukuha ng mga impormasyon na makakatulong sa pag de-desisyon

_____Hindi sasang-ayon; pakitukoy ang dahilan _____

_____

_____

_____

_____

_____ Iba pa, pakitukoy_____

_____

_____

_____

52. Sa inyong pananaw, kinakailangan ba na magbago kayo ng pinagkakakitaan dahil sa nasakop ng proyekto ang inyong sakahan/fishpond area?

_____ oo
_____ hindi

53. Kung oo, paano magiging possible ang pagpapalit ninyo ng trabaho?

_____ posibleng makahanap ng panibagong trabaho

_____ posible kung makakatanggap ako ng sapat na bokasyunal na kaalaman mula sa gobyerno

_____ posible na maipagpatuloy ang pagsasaka kung mayroon ulit magpapasaka ng kanilang lupa

_____ possible na maipagpatuloy ang kasalukuyang pagsasaka/pag-aalaga ng isda sa pamamagitan ng pagpapalit ng sistema na angkop sa magiging gamit ng lupa, ito'y kung sakaling makakatanggap ng tulong pinansyal mula sa gobyerno

_____ iba pang dahilan_____

_____

_____

_____

Magandang Araw at Maraming Salamat po!

ANNEX PIIC_9-7

SELF-SCREENING CHECKLIST (TAGOLOAN)

ANNEX 2-7a

SCOPING and PROCEDURAL SCREENING CHECKLIST FOR ENVIRONMENTAL IMPACT STATEMENT (EIS)

B. TECHNICAL SCOPING CHECKLIST [1]

NOTE: Attach list of issues raised by the attending community representatives during the Public Scoping (Annex 2-7c). Integrate the issues in the Technical Scoping Checklist below.

	List of Key Environmental Issues	Relevance based on PD and Project Location[2] LS = Likely Significant; LI = Likely Insignificant; NR= Not Relevant			a) Basis of Assessment of Relevance; b) Proposed Method of Impact Assessment; c) Other Instructions per Project Phase?		Description of Environment	Required?		Proposed Methodology of Securing and Presenting Information; Other Considerations in EIA Study	Page in the EIA Document	Verified acceptable by EMB CH?	
		LS	LI	NR				Y	N			Y	N
1.0	**THE LAND**						**THE LAND**						
1.1	**Land Use and Classification**						**Land Use and Classification**						
1.1.1.	Change/Inconsistency in land use						Description of existing land use/zoning/ classification	√					
1.1.2.	Encroachment in Protected Area under NIPAS			√			Land Use Map *(include location of any ECAs and special land features)*	√					
1.1.3.	Encroachment in other ECAs			√									
1.2	**Geology/Geomorphology**						**Geology/Geomorphology**						
1.2.1.	Change in surface landform /topography/terrain/slope	√					Slope and Elevation Map		√				

[1] This table has two major columns: Key environmental issues to be addressed, and the Description of Environment (primary or secondary data) based on one or more environmental issues identified. There is no one-to-one correspondence between the potential issue columns to the left and the baseline information to the right. These columns are provided to ensure the EIA Study focuses on the most relevant environmental issues. **LS = likely significant, LI = likely insignificant, NR = nor relevant**. LS requires in depth quantitative analysis depending on the availability of mathematical methods. LI requires qualitative analysis. NR column is provided since there are listed impacts that may not be after all existent due to the nature of the project and location. During the EIA study, some project aspects may be discovered as significant and may be the basis of Additional Information in the review.

List of Key Environmental Issues		Relevance based on PD and Project Location[2] LS = Likely Significant; LI = Likely Insignificant; NR= Not Relevant			a) Basis of Assessment of Relevance; b) Proposed Method of Impact Assessment; c) Other Instructions per Project Phase?		Description of Environment	Required?		Proposed Methodology of Securing and Presenting Information; Other Considerations in EIA Study	Page in the EIA Document	Verified acceptable by EMB CH?	
		LS	LI	NR				Y	N			Y	N
1.2.2.	Change in sub-surface/ underground geomorphology (e.g. underground mining)			√			Regional/General Geological Map	√					
1.2.3.	Inducement of subsidence			√			Geological Cross-Sections		√				
1.2.4.	Inducement of landslides or other natural hazards			√			Sequence Stratigraphic Column of Rock Units		√				
1.2.5.							Geomorphological Map		√				
1.2.6.							g factor Contour Map for Rocks		√				
1.2.7.							Seismicity Map	√					
1.2.8.							Differential Settling Hazard Map		√				
1.2.9.							Bathymetric and Morphostructural Map		√				
1.2.10.							Results of Petrographic and Mineragraphic Analyses		√				
1.2.11.							Results of Geochemical Analyses of Rock Samples		√				
1.3	**Pedology**						**Pedology**						
1.3.1.	Soil Erosion						Summary of Soil Investigation Report on soil type and quality	√		Sediment soil sampling for heavy metals			
1.3.2.	Change in soil quality (e.g. in irrigation areas)						Laboratory Results of Soil Sample Analysis	√		ditto			
							Erodibility Potential		√				
1.4	**Terrestrial Biology**						**Terrestrial Biology**						
1.4.1.	Vegetation removal and loss of habitat			√			Flora and Fauna Species Inventory or Survey	√		Very general survey only			
1.4.2.	Threat to existence of important			√			Summary of Endemicity		√				

List of Key Environmental Issues		Relevance based on PD and Project Location[2] LS = Likely Significant; LI = Likely Insignificant; NR= Not Relevant			a) Basis of Assessment of Relevance; b) Proposed Method of Impact Assessment; c) Other Instructions per Project Phase?		Description of Environment	Required?		Proposed Methodology of Securing and Presenting Information; Other Considerations in EIA Study	Page in the EIA Document	Verified acceptable by EMB CH?	
		LS	LI	N R				Y	N			Y	N
	local species						/Conservation Status						
1.4.3.	Threat to abundance, frequency and distribution			√			Summary of Abundance, Frequency and Distribution		√				
1.4.4.	Hindrance to wildlife access			√			Site Observation/ Transect Walk Map		√				
2.0	**THE WATER**						**THE WATER**						
2.1	**Hydrology/Hydrogeology**						**Hydrology/Hydrogeology**						
2.1.1.	Change in drainage morphology	√					Topographic Map showing Drainage System	√					
2.1.2.	Change in stream, lake water depth		√				Regional Hydrogeologic Map		√				
2.1.3.	Reduction in stream volumetric flow	√					Streamflow Measurements/ Mean Monthly Flow Data	√					
2.1.4.	Inducement of flooding	√											
2.1.5.	Water resource competition			√			Flood Peaks, Volumes, frequency rating curves and Stormwater flow estimates	√					
2.1.6.	Reduction/Depletion of groundwater flow			√			Spring and Well Inventory and location map		√				
							Flow measurement location map		√				
2.2	**Oceanography**			√			**Oceanography**						
2.2.1.	Change in circulation pattern			√			Predicted Tides		√				
2.2.2.	Change in bathymetry			√			24-Hour Tidal Cycles		√				
2.2.3.							Surface Current System		√				
2.3	**Water Quality**						**Water Quality**						
2.3.1.	Groundwater pollution			√			Physico-Chemical Characteristics of Wells and Springs		√				

List of Key Environmental Issues		Relevance based on PD and Project Location[2] LS = Likely Significant; LI = Likely Insignificant; NR= Not Relevant			a) Basis of Assessment of Relevance; b) Proposed Method of Impact Assessment; c) Other Instructions per Project Phase?		Description of Environment	Required?		Proposed Methodology of Securing and Presenting Information; Other Considerations in EIA Study	Page in the EIA Document	Verified acceptable by EMB CH?	
		LS	LI	N R				Y	N			Y	N
2.3.2.	Stream water pollution		√				Physico-Chemical Characteristics of Inland Surface Waters	√		Presence of heavy metals			
2.3.3.	Lake water pollution			√			Physico-Chemical Characteristics of Coastal Waters		√				
2.3.4.	Marine water pollution			√			Bacteriological Characteristics of Wells and Springs		√				
							Bacteriological Characteristics of Inland Surface Waters		√				
							Bacteriological Characteristics of Coastal Waters		√				
							Sampling Site Map	√					
2.4	**Freshwater Ecology**												
2.4.1.	Threat to abundance, frequency and distribution of species						Abundance of ecologically and economically important species	√					
2.4.2.	Loss of important species						Presence of Pollution indicator Species	√					
2.4.3.	Loss of habitat						Sampling Site Map		√				
2.5	**Marine Ecology**												
2.5.1.	Threat to abundance, frequency and distribution						Abundance of ecologically and economically important species		√				
2.5.2.	Loss of important species						Presence of Pollution indicator Species		√				
2.5.3.	Loss of habitat						Marine Resource Map		√				
2.5.4.							Abundance/Densities/Distribution of mangroves, coral reefs, fishes, sea grasses, algae, seaweeds,	√		Mangrove map			

	List of Key Environmental Issues	Relevance based on PD and Project Location[2] LS = Likely Significant; LI = Likely Insignificant; NR= Not Relevant			a) Basis of Assessment of Relevance; b) Proposed Method of Impact Assessment; c) Other Instructions per Project Phase?		Description of Environment	Required?		Proposed Methodology of Securing and Presenting Information; Other Considerations in EIA Study	Page in the EIA Document	Verified acceptable by EMB CH?	
		LS	LI	N R				Y	N			Y	N
							plankton, etc						
2.5.5.							Sampling Site Map		√				
3.0	**THE AIR**						**THE AIR**						
3.1	**Meteorology/Climatology**						**Meteorology/Climatology**						
3.1.1.	Change in the local climate, e.g. local temperature		√				Monthly Average Rainfall of the Area	√					
3.1.2.	Contribution to global greenhouse gas		√				Climatological Normals/Extremes	√					
							Wind Rose Diagrams		√				
							Frequency of Tropical Cyclones	√					
3.2	**Air Quality (& Noise)**						**Air Quality (& Noise)**						
3.2.1.	Air pollution		√				Ambient concentrations of TSP, SO_x, NO_x, PM10, etc., 1-hour, 24-Hour Sampling	√		TSP, PM, SOx			
3.2.2.	Increase in noise		√				Noise Levels	√					
							Sampling Station Map (air and noise)	√					
4.0	**THE PEOPLE**						**THE PEOPLE**						
4.1.1.	Displacement of settler		√				Demography	√					
4.1.2.	Change in land ownership		√				Settlement Map and Population Distribution Map	√					
4.1.3.	Displacement of property		√				Population Growth Rate	√					
4.1.4.	Right-of-way conflict		√				Number of Households and Household Size by Barangay	√					
							Summary of Demographic data per Barangay to be directly affected:	√					

List of Key Environmental Issues	Relevance based on PD and Project Location[2] LS = Likely Significant; LI = Likely Insignificant; NR= Not Relevant			a) Basis of Assessment of Relevance; b) Proposed Method of Impact Assessment; c) Other Instructions per Project Phase?		Description of Environment	Required?		Proposed Methodology of Securing and Presenting Information; Other Considerations in EIA Study	Page in the EIA Document	Verified acceptable by EMB CH?	
	LS	LI	N R				Y	N			Y	N
4.1.5. In-migration						Land Area, Population, Population Density, Main Sources of Income, Gender and Age Composition, Literacy, Highest Educational Attainment, Employment Status						
						Household Profile based on results of the Socio-Economic/Perception Survey	√					
4.1.6. Presence of Indigenous People						Indigenous Peoples	√					
4.1.7. Cultural Change						Health	√					
4.1.8. Threat to public health						Morbidity and Mortality Rates (Infants and Adults) from Direct Impact Areas	√					
						5-Year Trend in Morbidity and Mortality		√				
4.1.9. Local benefits from the project						Notifiable Diseases in the Area including Endemic Diseases		√				
						Local Health Resources (Government and Private)	√					
						Environmental Health and Sanitation Profile: water supply, human excreta mgt, waste mgt and disposal systems and food hygiene	√		Solid waste management system only			
4.1.10. Threat to delivery of basic services						Water Supply and Demand		√				
						Power Supply and Demand		√				
4.1.11. Traffic congestion						Transportation/Traffic situation		√				
SUMMARY/HIGHLIGHTS OF TECHNICAL SCOPING											For Procedural	

List of Key Environmental Issues	Relevance based on PD and Project Location[2] LS = Likely Significant; LI = Likely Insignificant; NR= Not Relevant	a) Basis of Assessment of Relevance; b) Proposed Method of Impact Assessment; c) Other Instructions per Project Phase?	Description of Environment	Required?		Proposed Methodology of Securing and Presenting Information; Other Considerations in EIA Study	Page in the EIA Document	Verified acceptable by EMB CH?	
	LS / LI / NR			Y	N			Y	N

	Screening			
	Considering all project activities and phases, select the most critical Environmental Aspects (major sources of most significant impacts)	List of Associated Most Significant Environmental Issues/Stressors	Agreed EIA Approach in Impact Assessment and Mitigation on key environmental aspects and impacts/issues	Remarks	Page in EIA Document	Verified Acceptable by EMB CH? Y	Verified Acceptable by EMB CH? N
1							
2							
3							

C. ENVIRONMENTAL RISK ASSESSMENT

If the project has the following:	Required Study/Report	Y	N
1. Facilities for the production or processing of organic or inorganic chemicals using: alkylation, amination by ammonolysis, carbonylation, condensation, dehydrogenation, esterification, halogenation and manufacture of halogens, hydrogenation,hydrolysis, oxidation, polymerization, sulphonation, desulphurization, manufacture and transformation of sulphur-containing compounds, nitration and manufacture of nitrogen-containing compounds, manufacture of phosphorus-containing compounds, formulation of pesticides and of pharmaceutical products, distillation, extraction, solvation	Risk Screening Study		√
2. Installations for distillation, refining or other processing of petroleum products.	Risk Screening Study		√
3. Installations for the total or partial disposal of solid or liquid substances by incineration or chemical decomposition	Risk Screening Study		√
4. Installations for the production or processing of energy gases, for example, LPG, LNG, SNG	Risk Screening Study		√
5. Installations for the dry distillation of coal or lignite	Risk Screening Study		√
6. Installations for the production of metals or non-metals by a wet process or by means of electrical energy	Risk Screening Study		√
7. Installations for the production of metals or non-metals by a wet process or by means of electrical energy	Risk Screening Study		√
8. Specific facilities or the use of certain processes listed in the **Risk Thresholds Table** below.	Risk Screening Study		√
9. Facilities that would use, manufacture, process or store hazardous materials in excess of **Level 1** threshold inventory in **Risk Thresholds Table** below.	Hazard Analysis Study, and Emergency/ Contingency Plan based on the study and worst-case scenario.		√

If the project has the following:	Required Study/Report	Y	N
10 Facilities that would use, manufacture, process or store hazardous materials in excess of **Level 2** threshold inventory in **Risk Thresholds Table** below.	Quantitative Risk Assessment (QRA) and Emergency/Contingency Plan based on the QRA		√

Risk Thresholds Table

CATEGORY	LEVEL 1 (tons)	LEVEL 2 (tons)	CATEGORY	LEVEL 1 (tons)	LEVEL 2 (tons)
1. Explosives	10	50	7. Toxic substances (medium)	10	50
2. Flammable substances	5,000	50,000	8. Toxic substances (high)	5	20
3. Highly flammable substances	50	200	9. Toxic substances (very high)	0.2	1
4. Extremely flammable substances	10	50	10. Toxic substances (extreme)	0.001	0.1
5. Oxidizing substances	50	200	11. Unclassified (Type A)	100	500
6. Toxic substances (low)	50	200	12. Unclassified (Type B)	50	200

NEED FOR PUBLIC HEARING/CONSULTATION /SITE VISIT OR SITE/VALIDATION DURING EIA REVIEW	BASIS FOR RECOMMENDATION/DECISION
1) Proponent's Request	
2) EIARC Evaluation	
3) EMB Evaluation	

SCOPED BY: EIARC MEMBERS

NAME	EXPERTISE	SIGNATURE	NAME	EXPERTISE	SIGNATURE

EIA PERSONNEL REPRESENTATIVE DURING TECHNICAL SCOPING:		REPRESENTATIVE/S OF THE PROJECT PROPONENT:	
Signature over Printed name	Signature over Printed name	Signature over Printed name	Signature over Printed name
NOTED BY: EIAM Division Chief		REPRESENTATIVE/S OF THE EIA PREPARER:	
Signature over Printed name		Signature over Printed name	Signature over Printed name

ANNEX PIIC_9-8

COMPARISON BETWEEN CONTENTS OF EIA REPORT FOR CATEGORY "A" PROJECT IN FORMER JBIC GUIDELINE AND IEE REPORT IN PEIAS

COMPARISON BETWEEN CONTENTS OF JBIC GUIDELINE AND LARRIPP

Description of Category of JBIC Guideline

- Category A: i) Projects likely to have significant adverse impacts on the environment and society, ii) Projects with complicated impacts or unprecedented impacts, which are difficult to assess or which have a wide range of impacts or irreversible impacts, iii) Projects are required detailed EIA by related laws and the standards of the recipient governments.

- Category B: Their potential adverse impacts are less than those of Category A projects. Generally they are site-specific; few if any are irreversible; and in most cases normal mitigation measures can be designed readily.

- Category C: They are likely to have minimal or little adverse impacts.

- Category FI: The proposed project is categorized as FI if it satisfies all of following: i) JBIC's funding of the project is provided to a financial intermediary etc. ii) the selection and assessment of the actual sub-projects is substantially undertaken by such an institution only after JBIC's approval of the funding and therefore the sub-projects cannot be specified prior to JBIC's approval of funding (or assessment of the project), iii) those sub-projects are expected to have potential impact on the environment.

Table 1 Comparison between contents of EIA report for category "A" project in JBIC guideline and IEE report in PEIAS

JBIC Guideline	IEER in PEIAS	Difference
[Executive Summary] - discusses concisely significant findings and recommended actions.	[Project Description Report] Background, process and methodology of assessment, study team composition, study schedule are described.	Non
[Policy, legal and administrative framework] discusses the policy, legal and administrative framework within which the EIA report is to be carried out	[Political, regal and administrative Framework] Philippine EIA System (PEIAS) follows DAO-37/1996, Environment study is carried out under PEIAS	EIS report does not require the item, but it is described by the Project Description Report.
[Project description] - describes the proposed project and its geographic, ecological, social and temporal context, including any off-site that may be required (e.g. dedicated pipelines, access roads, power plants, water supply, housing, and raw material and product storage facilities). - Indicates the need for any resettlement or social development plan. - Normally includes a map showing the project site and the area affected by the project.	[Project Description] - Necessity of project - Alternatives - Project site - Other project near the project site - Summary of phase-wise activities	None

JBIC Guideline	IEER in PEIAS	Difference
[Baseline data] - Assesses the dimensions of the study area and describes relevant physical, biological and socio-economic conditions, including all changes anticipated before the project commences. - Additionally, takes into account current and proposed development activities within the project area but not directly connected to the project. - Data should be relevant to decisions about project site, design, operation, or mitigatory measures - The section indicates accuracy, reliability and sources of the data.	[Baseline data] - Describe physical, biological environment conditions, cultural, socio-economical conditions and regal framework - Include alternative without project	None
[Environmental Impacts] - Predicts and assesses the project's likely positive and negative impacts, in quantitative terms to the extent possible. - Identifies mitigation measures and any negative environmental impacts that cannot be mitigated. - Explores opportunities for environmental enhancement. - Identifies and estimates the extent and quality of available data, essential data gaps and uncertainties associated with predictions - Specifies topics that do not require further attention.	[Environmental impacts] - Predicts impacts on each project phase - Summarizes evaluation specific impacts; water, soil and air conditions - Evaluates specific socio-economy and cultural impacts	None
[Analysis of alternatives] - Systematically compares feasible alternatives to the proposed project site, technology, design and operation including the "without project" situation in terms of their potential environmental impacts; the feasibility of mitigating these impacts; their capital and recurrent costs; their suitability under local conditions; and their institutional, training and monitoring requirements. - For each of the alternatives, quantifies the environmental impacts to the extent possible, and attaches economic values where feasible. - States the basis for selecting the particular project design proposed and offers justification for recommended emission levels and approaches to pollution prevention and abatement.		The comparison of alternatives is considered by the content of basic information.

JBIC Guideline	IEER in PEIAS	Difference
[EMP] - Describes mitigation, monitoring and institutional measures to be taken during construction and operation to eliminate adverse impacts, offset them, or reduce them to acceptable levels.	[EMP] - Prepares the matrix, which includes mitigation measures, management cost estimation and responsibility. - Includes records of discussion with stakeholders. - Includes monitoring plan (if any), counter measures for unpredictable accidents, and responsible organization and minutes of agreement.	None
[Consultation] - Record of consultation meetings, including consultations for obtaining the informed views of the affected people, local NGOs and regulatory agencies.	[Stakeholders meeting] -All data/notes are attached to the main report.	
None	[Recommendation] - Write recommendation based on results of assessments for IEE targets projects. - DENR will tale attention on these contents such as, list of mitigation measures to predicted impacts, prediction after taking measures.	JBIC guideline does not include recommendation.
Source: Japan Bank for International Cooperation Guidelines for Confirmation of Environmental and social Considerations, April 2002		

Table 2 Comparison between contents of JBIC guideline and LARRIPP

JBIC Guideline	LARRIPP	Difference
Appropriate consideration must be given to vulnerable social groups, such as women, children, the elderly, the poor, and ethnic minorities, all of whom are susceptible to environmental and social impact and who may have little access to the decision-making process within society.	The consideration for the women, elderly is described in Chapter V as: "The women, elderly who are among the PAPs shall likewise be consulted and mobilized to participate in the consultation meeting, and discussed with them the socio-cultural implication of the Resettlement Action Plan.".	LARRIPP adverts the importance of participation in the consultation ,meeting s and discussion the RAP only,
The project proponents, etc. must make efforts to enable the people affected by the project, to improve their standard of living, income opportunities and production levels, or at least to restore them to pre-project levels.	LARRIPP describes as "iv. (skills training and other development activities) equivalent to PhP15, 000 per family per municipality will be provided in coordination with other government agencies, if the present means of livelihood is no longer viable and the PAF will have to engage in a new income activity." in Chapter III A. 4. e.	None.
Appropriate participation by the people affected and their communities must be promoted in planning, implementation and monitoring of involuntary resettlement plans and measures against the loss of their means of livelihood.	The consideration for the women, elderly is described in Chapter V as: "The women, elderly who are among the PAPs shall likewise be consulted and mobilized to participate in the consultation meeting, and discussed with them the socio-cultural implication of the Resettlement Action Plan.".	LARRIPP does not advert to the participation of PAPs to the planning. The monitoring results shall be report to PAPs but their participation is not.
Projects must comply with laws, ordinances and standards relating to environmental and social considerations established by the governments that have jurisdiction over the project site (including both national and local governments). They are also to conform to environmental and social consideration policies and plans of the governments that have jurisdiction over the project site.	LARRIPP describes in Chapter V. A.4 as "if also in this case they (PAPs) do not agree, the DPWH will promptly seek the services of Land Bank, DBP or an independent appraiser to determine the fair market value". And the possibility of difference between the BIR zonal valuation and the fair market value shall be explained to PAPs at the beginning.	None.
People to be resettled involuntarily and people whose means of livelihood will be hindered or lost must be sufficiently compensated and supported by the project proponents, etc. in timely manner.	LARRIPP writes clearly as "Owners of structures who have full title, tax declaration, or who are covered by customary law (e.g. possessory rights, usufruct, etc.) or other acceptable proof of ownership."	There is no description of assistance for the informal settlers.
In cases where sufficient monitoring is deemed essential for the achievement of appropriate environmental and social considerations, such as the projects for which mitigation measures should be implemented while monitoring their effectiveness, project proponents must ensure that project plans include monitoring plans which are feasible.	The objectives, scope, contents are described in Chapter VIII of LARRIPP. The monitoring is classified by the internal monitoring (by ESSO) and the external monitoring (by external institutions). The frequency, framework, etc. are described in detail.	None.

APPENDICES

MINUTES OF THE MEETING
FIRST STAKEHOLDERS' MEETING
THE PREPARATORY STUDY FOR SECTOR LOAN ON
DISASTER RISK MANAGEMENT

Tagoloan Conference Hall
Municipality of Tagoloan, Region X
June 4, 2009

Attendance:

Government of Tagoloan City

1.	Mr. Bobby B. Mendoza	-	Balwarte Brgy. Council
2.	Mr. Edward F. Ello	-	Bgry. Sta. Cruz
3.	Ms. Sandie Factura	-	Brgy. Sta. Cruz
4.	Ms. Jacilyn Burias	-	Brgy. Sta. Cruz
5.	Mr. Armando C. Domn	-	SB Member
6.	Ms. Lorely A. Dacoroon	-	Brgy. Kagawad
7.	Ms. Nita N. Agusan	-	Brgy. Kagawad
8.	Mr. Rene Embrado	-	Brgy. Sta. Cruz
9.	Mr. Eugs A. Palapo	-	Brgy. Natumolan
10.	Mr. Marlon C. Adone	-	Brgy. Natumolan
11.	Mr. Ronnie N. Paderna	-	Brgy. Natumolan
12.	Eng. Pompeyo S. Bolotaolo	-	Engineering Office-LGU
13.	Ms. Coockie F. Libres	-	Mayors Office
14.	Ms. Myrna C. Cosin	-	SB secretary
15.	Ms. Liza D. Pamaos	-	SB Acct. Office
16.	Ms. Chiqui V. Cosin	-	Brgy. Mohon
17.	Ms. Marlie B. Emam	-	MSWD
18.	Ms. Audie Palaganas	-	SB members
19.	Mr. Arnulro T. Rimda	-	Brgy. Poblacion
20.	Mr. Mario R. Omano	-	Bgry. Poblacion
21.	Ms. Yulibelle Lou Quilang	-	SB Member
22.	Mr. Robinson V. Sabio	-	SB Member
23.	Ms. P.A Lucatsan	-	MSWD
24.	Mr. Jerry Jim Mainit	-	Brgy. Sta. Cruz
25.	Mr. Rhandel B. Ajon	-	MSWD
26.	Ms. Elena M. Casiño	-	MPDO
27.	Mr. Manolito O. Labita	-	Brgy. Bal.
28.	Mr. Decotooso Karagdang	-	Brgy. Sta. Ana
29.	Mr. Rey C. Abejo	-	Mayor's Office
30.	Mr. E. Ragandang	-	Brgy. Sta. Ana
31.	Mr. S. Escalante	-	Brgy. Sta. Ana
32.	Ms. Ziada P. Saguilayan	-	Brgy. Poblacion

DPWH

1.	Eng. Grecile Christoper Damo	-	DPWH-FCSEC
2.	Eng. Feliciano Pabanao	-	DPWH-X, Buwa, CDO
3.	Ms. Dulce C. Adiong	-	DPWH-X Regional Office

Other Agency

1. Mr. Osin A. Sinsua, Jr. - MGB-DENR-X
2. Mr. Carmelito A. Lupo - OCD-X
3. Mr. Edgardo M. Buna - OCD-X
4. Mr. Mario B. Cornimal - OCD-X
5. Ms. Avalyn Gahulugan - PIA
6. Mr. E. Resumo - PIA
7. Mr. DP Jora - PIA
8. Ms. Elizabeth P. Obaob - AO-IV
9. Mr. Recardo Vicente C. Lee - LADO-III
10. Ms. Gene A. Baculro - MEO
11. Mr. Nestor A. Lisondra - NEDA-X
12. Mr. Eric P. Pagandang - E-II

JICA Study Team w/ Local Consultants

1. Kazuto SUZUKI - Structural Engineer
2. Dr. Lope R. Villenas - Institutional and Organization, O&M Specialist
3. Ms. Yoko Nomura - Project Formulation Adviser

Local Consultant Conducting IEE

1. Ms. Bethela Castro-DelNero - Environmental Specialist, CESM
2. Edilberto B. Dumaua - Woodfileds Consultant, Inc.

Academe / Religious / NGO's – Non-Government Organization / PO's – People's Organization

1. None

Communities

1. None

Abbreviations

1. PPDO – Provincial Planning Development Office
2. PPDC – Provincial Planning Development Coordinators
3. PSWDO – Provincial Social Welfare and development Office
4. MPDO – Municipal Planning Development Office
5. MPDC – Municipal Planning Development Coordinators
6. MENRO – Municipal Environmental and Natural Resource Office
7. MSWDO – Municipal Social Welfare and Development Office
8. NWRB – National Water Resource Board
9. MGB-Mines and Geosciences Bureau
10. OCD- Office Of Civil Defense
11. PIA- Philippine Information Agency
12.]NEDA- National Economic and Development Authority

Proceedings:

The Stakeholder Meeting formally started at around 1:00 in the afternoon with an invocation led by Ms. Myrna Cosim. This was followed shortly by opening prayer and singing the Philippine National Anthem led by Liza Pamaos. Ms. Cookie F. Libres facilitated the meeting.

Welcome remarks by Ms. Sandie Factura, OIC of the office of the Mayor wherein she mentioned that this project is of a noble cause and is looking forward for a fruitful partnership with the JICA and its Study Team. This was followed by roll call of the delegates by Myrna Cosim, the SB Secretary.

Mr. Ray C. Abejo, Staff of the Mayor gave a speech and welcomed all the attendees from the different affected barangays of Tagoloan on behalf of the Mayor. He also mentioned that he was a JICA Scholar before. Important things he mentioned:

1 Tagoloan is a 1st class municipality with a population of about 60,000.
2. Expressed the need of Tagoloan for loans and study findings as well.
3. Tagoloan River Basin is a POVEDEC area
4. The Bugna river is dry right now, but with climate change and global warming, hard rains and rundown of water/flood might occur during unexpected times
5. He also mentioned about an NGO called "Palaras" which study the Tagoloan River along with culture and practice of tagoloan town
6. He expressed the need to study Tagoloan River's Rainfall, River Flow, and River Water Quality

Briefing by Engr. Grecile Christopher Damo, DPWH PMO-FCSEC

Engr. Chris Damo gave a background of how Tagoloan River was chosen for this particular sector loan along with two (2) other river basins in Visayas and Luzon. He informed the audience that some concerns need to be addressed first before the sector loan will be awarded or approved i.e. all budget is for construction or structural measures only. On previous projects, a large part of the budget goes to ROW and this had decreased the project's efficiency significantly. Therefore, for this sector loan, the budget is allotted for the construction of mitigation structures only, not for ROW, and he asked for the cooperation of respective LGUs regarding relocation, resettlement and maintenance issues and that a resolution between LGU and DPWH be made in a form of MOA.

He stressed that should there be any sign or presence of opposition to the project, JICA will look for other area/project sites.

Presentation of Mr. Kazuto SUZUKI: The Preparatory Study for Sector Loan on Disaster Risk Management in the Republic of the Philippines

Mr. Kazuto SUZUKI of JICA Preparatory Study Team presented the Study contents and its progress based on the results in the Steering Committee Meeting dated April 28, 2009. Before Mr. SUZUKI, started his presentation he expressed his thanked to various

government and organizations that has extended support to the Study since the very beginning and also to the participants.

Mr. SUZUKI mentioned that the study includes the conduct of Feasibility Study on the Tagoloan River Flood Mitigation Project, which would concentrate into built-up areas, such as Town Proper of Tagoloan.

He continued his presentation about the current status of flood control projects conducted by DPWH during 33 years in the past. He addressed that some projects have induced the lowering benefit and effectiveness against flood resulting from (1) the Delay of Construction due to ROW acquisition procedure problem and Cost Overrun, and (2) Lack of O&M activities for river structures completed by such projects. In this connection, Mr. Suzuki emphasized that the cooperation and initiatives of LGUs in the Project are absolutely imperative for the Project, to wit; (1) due effort for ROW acquisition by the concerned LGUs, (2) harmonized Project implementation between DPWH and LGUs, and (3) development and enhancement of flood management capacity for concerned organizations.

According to Mr. SUZUKI, the study team also gathered some information regarding the existing river alignment and cross sectional shapes, land-use and development in the project site. Aside from this, he also reiterated the status or situation of the river channels, some major cause of flooding in the project site and the basic concept in formulating the mitigation plan including the proposed structural and non-structural measures to be presented in expected succeeding stakeholders' meetings.

With regards to the mitigation that needs to be undertaken, Mr. Suzuki conceived of that the study team would proposed the following: for non-structural measures (1) measures for river channel that includes community-based flood mitigation and restraint of illegal land occupation in the river area; (2) measures for basin that includes land use control and control of disorderly land development; and (3) measures for damage mitigation that includes development and dissemination of flood hazard map, establishment of evacuation and flood fighting & preparedness against flood and unification of related agencies for flood mitigation. And for the structural measures the team identified potential mitigation measures against flood and these are (1) widening of river channel improvement, (2) construction of flood protection dike, and (3) construction of dredging of riverbed.

Open Forum

Open Forum facilitated by Engr. Grecile Christopher Damo and Dr. Lope Villenas

1. Question: Concern on the sector loan, he wants to know the obligation of Tagoloan LGU re: role during application and payment obligation. He is concerned on the ability of the LGU on the amortization and expressed the burden that maybe they can't afford it. ***(Mr. Ray C Abejo: from the Mayor's office)***

Answer: This project a DPWH and JICA joint project and being the proponent, DPWH is implementing it. In this case, therefore, the Tagoloan LGU should not be concerned and burdened with loan payment. The objective of this Stakeholders' Meetings are to a) ask support of respective LGUs on ROW problems, if any, a commitment of "no opposition" for the project, as well as their responsibility in the maintenance of river

structures i.e. repairs and abatement, planting grasses, river cleaning, beautification, etc., and b) to inform them of the progress of the FS. ***(Mr. Kazuto Suzuki, JICA Study Team and Eng. Grecile Christopher Damo of DPWH)***

2. Question: In relocating affected households living near the river banks, will they be relocated? This will pose a problem later on. ***(Ms. Avalyn Gahulugan - PIA)***

Answer: This sector loan is only for structural measures. Therefore, it is strongly suggested that a MOA between Tagoloan and DPWH be made to shoulder the cost and burden of relocation and right of way. As of the moment, there's no exact area and project design yet. But as early as now, DPWH is asking for Tagoloan LGU for full support. ***(Mr. Lope Villanes, JICA Study Team and Eng. Grecile Christopher Damo of DPWH).***

3. Question: Will the ongoing quarry along the river be allowed to continue their activities or will they be asked to stop? ***Ms. Avalyn Gahulugan - PIA)***

Answer: It is recommended to stop the quarry activities but first, it will be discussed with concerned LGU and call attention of DENR about it. Rest assured, the recommendation of these parties will definitely be considered. ***(Mr. Kazuto Suzuki, JICA Study Team)***

4. Question: Suggested that if possible, design the top of the dike to be a road going to other/different barangays. (***Kgd. Audie Palaganas***)

Answer: Will highly consider the suggestion but this design might widen/extend the easement area. ***(Mr. Kazuto Suzuki, JICA Study Team)***

He said that the MGB is on its 2nd week of Hazard Assessment Program. He also informed the Study Team of President GMA's order to clear river banks of settlers, this may ease the ROW burden. He also suggested to the Team to consider the Tagoloan River Faultline in designing the structures, that it should be able to withstand these hazards. ***(Mr. Osin A. Sinsuat Jr.-DENR-MGB)***

Question: Has Tagoloan identified any relocation site within the municipality? ***(Mr. Kazuto Suzuki, JICA Study Team)***

Answer: Yes, but still have to discuss with cadastral authority about its boundaries***. Ms. Avalyn Gahulugan - PIA)***

5. Question: Who will shoulder the relocation cost, DPWH or LGU? ***Ms. Avalyn Gahulugan - PIA)***

Answer: This will depend on the MOA of LGU and DPWH. ***(Mr. Kazuto Suzuki, JICA Study Team)***

6. Question: He is looking forward for the project to materialize and realized that the LGU will play a very important role i.e. the SUPPORT of municipal and

barangay heads in convincing people re: ROW. ***(Mr. Carmelito A. Lupo: National Defense-X)***

Answer: The CESM will conduct a social study pertaining to this particular issue***.(Dr. Lope Villanes- Institutional and Organization, O&M Specialist)***

7. Question: Informs the JICA Study Team that projects for loan approval highly considers resettlement issues and how it will be solved or reconciled. He also asked Engr. Damo the difference of this JICA Study and the study of a certain KOREAN DEVELOPMENT FUND. ***(Mr. Nestor A. Lisondra: NEDA Reg. X representative)***

Answer: JICA Study is for FS for a Sector Loan, the KDF conducts a study only. ***(Eng. Grecile Christopher Damo of DPWH)***

8. Question: On the Sector Loan's conditionality and approval of the ICC, he suggested that DPWH should also present the project to the Provincial Development Council (regarding the process and requirement). ***(Mr. Nestor A. Lisondra: NEDA Reg. X representative)***

He asked about the timeframe of the project. ***(Mr. Ray C Abejo: from the Mayor's office)***

Answer: The construction will take about 3-4 years (i.) We are now in the preparatory and FS stage – 6 mos (ii.) Staff to evaluate sector loan (iii.) After concurrence from JICA, the Japanese Gov't approves the loan (iv.) Detailed design – 1 year (v.) Bidding accdng to PI law (vii.) Construction. . ***(Mr. Kazuto Suzuki, JICA Study Team)***

Mr. Kazuto Suzuki emphasized the conditionality of the loan such as the responsibilities of Tagoloan LGU in ROW issues and maintenance of the structures.

Mr. Ray Abejo gave a pleading speech to the delegates. He said that right now, the river may look tamed, but there was a time when a big rain in the 60's joined the Tagoloan River and Pugaan River, and there was an enormous flood. It could happen again.

Wrap up by Eng. Grecile Christopher Damo

He thanked the people's support as well as emphasized that this project will benefit their loved ones and the next generations. As long as LGU and DPWH will join hands, they can have much power. The study team will look at the activities on the river in a basin wise approach. He also said that it would be much better if NIA will be involved, if they have projects, etc.

Concluding Remarks by *Kgd. Audie Palaganas*: SB Councilor

"Preparedness and prevention from damage from calamities is better than repair". He thanked JICA and the support of the delegates for a noble and commendable project. He is hoping that not this will not be a DRM endeavor but will be a collective effort of JICA and Tagoloan LGU with its inhabitants to rehabilitate the river.

Mayor just arrived from Korea, but gave a speech anyway.

He extended his help and support for the project and should the study team need anything to fast track the project, don't hesitate to ask.

Prepared by:

Kazuto SUZUKI
Structural Engineer
JICA Preparatory Study Team

(1st Revision)
Revised by

(2nd Revision)
Revised by

Approved by

MINUTES OF THE MEETING
SECOND STAKEHOLDERS' MEETING
THE PREPARATORY STUDY FOR SECTOR LOAN ON
DISASTER RISK MANAGEMENT

Tagoloan Conference Hall
Municipality of Tagoloan, Region X
August 21, 2009

Attendance:

Government of Tagoloan City

1. Elizabeth P. Perados	-	Tagoloan City
2. Marites R. Badiang	-	Tagoloan City
3. Ray C. Abejo	-	Mayor's Office
4. Antonieta M. Salvaria	-	Brgy. Kagawad – Sta. Cruz
5. Rene Embrado	-	Brgy. Captain – Sta. Cruz
6. Chicque V. Cosim	-	Brgy Kagawad
7. Pompeyo Balotaolo, Jr	-	City Engr.
8. Gene A. Baculpo	-	City Engr.
9. Burias Jocelyn	-	Brgy. Kagawad
10. Gene D. Bagay	-	Brgy. Kagawad
11. Mabui V. Nacasabog	-	Brgy. Captain
12. Robinson U. Saba	-	Sanggunian Bayan
13. Maristel Escabarte-Emano	-	Mayors Office
14. Clarito Lucagbo	-	Mayors Office
15. Shiela Paltazar	-	Agricultural Office
16. Robert A Mendoza	-	Kagawad Brgy. Baluarte
17. Rosendo A. Manto	-	Kagawad Brgy. Natamulan
18. Marlon C. Adame	-	Kagawad Brgy. Natamulan
19. Ronnie Paderna	-	Kagawad Brgy. Natamulan
20. M.C.K. Emsuro	-	Brgy. Captain Poblacion
21. Ronnie M. Cabanero	-	Brgy. Poblacion
22. Decafoso Gadang	-	Brgy. Sta. Cruz
23. Boy Realay	-	Brgy. Sta. Cruz
24. Eric P. Ragandang	-	MPDC-Temp. Designate
25. Yullebelle Lou F. Quintang	-	Sanggunian Bayan
26. Maria Linda Libres	-	Mayor's Office

DPWH

1. Engr. A. Ampong	-	CDO DPWH-X
2. Grecile Christopher Damo	-	Engr. III DPWH-FCSEC
3. Dilores M. Hipolito	-	DPWH-FCSEC
4. Alejandro A. Sosa	-	DPWH-MFCDP II
5. Lloyd Lumagbas	-	CDO DPWH-X

Other Agency

1. Efledo A. Resmo	-	PIA
2. Isin A. Sinsuot Jr	-	MGB-DENR-X

JICA Study Team w/ Local Consultants

1. Makoto Mitsukura - JICA Study Team
2. Kazito Suzuki - JICA Study Team

Local Consultant Conducting IEE

1. Aldwin Camance - CESM (JICA Consultant)
2. Bethela Castro-DelNero - CESM (JICA Consultant)

Academe / Religious / NGO's – Non-Government Organization / PO's – People's Organization

1. None

Communities

1. None

Abbreviations

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14. PPDC – Provincial Planning Development Coordinators
15. PSWDO – Provincial Social Welfare and development Office
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20. NWRB – National Water Resource Board

PROCEEDINGS:

Mr. Ray Abejo brought up the sector loan project that was tasked to mitigate a river for each of the main islands in the Philippines namely Luzon, Visayas ann Mindanao. He reminded everybody how fortunate they are to have Tagoloan River chosen for Mindanao.

Mr. Kazuto Suzuki of JICA study team, the project's engineer, who was tasked to explain the project started with his expression of gratitude to people present in the meeting. He then handed out materials such as the minutes and handouts of the previous stakeholders meeting dated June 4 and new handouts containing the flow of his presentation.

He discussed concepts regarding the structure of the project and implementation activities which extend to LGUs were among the main concerns of his presentation. Core areas which are most affected along with the proposed diking system structures were identified. In addition, proposed areas needed to be excavated, relocated, and protected were revealed. Mr. Suzuki continued further with the discussion of implementation and maintenance of the project with relation to LGUs such as barangays and DPWH. Social and environmental issues, mitigation and relocation were also considered. Using satellite images he identified proposed areas for diking and areas which need to be purchased and excavated in the course of the project. Finally, he put emphasis on the importance of a MOA that can give details on the responsibilities of each unit and thus can act as a guide to each entity.

Subsequently, **Engr. Aldwin Camance** came in and introduced himself and Ms. Bethela Del Nero as the environmental experts for this project. He stated the objectives of his presentation which includes, identifying environmental impacts as well as mitigation measures. Social

issues which include issues of right of way, he said were significant since this was the persistent problem in projects with this nature. Mr. Camance also gave a brief environmental characteristic of Tagaloan and shared with the audience his knowledge on dredging and erosion. He capped of his presentation, encouraging the spectators to think about the project and formulate questions.

Question 1: What will you do with the dredged materials?

Answer: We can utilize them for the building of the dikes. The Excess can still be useful for the municipality's development projects such as reclamation (Suzuki).

Question 2: What happens to the fish species in the river?

Answer: While excavation is ongoing, fishing shall cease since there will be lesser fish near the construction area due to disruption of habitat as well as siltation and sedimentation of the river. But after construction phase and due to deepening of the river channel, there is a great chance for more fish to come downstream.

Question 3: What about people who suddenly show up and construct on areas they know would be affected by the project?

Answers: We discourage construction near the river and proposed structures. We also have an inventory of the people in the area.

Question 4: It will be better if we are informed of a rough estimate of the percentage Tagoloan LGU can shoulder for their properties affected.

Answer: This shall come later and should be discussed with concerned decision makers. For now we just want the people to know of the proposed plan.

Mr. Ray Abejo reminds that the purpose of the meeting is to deliberate the flood control scheme and the concept of design so that the stakeholders can agree and give their approval. Other issues like right of way can come in later.

Engr. Dolores Hipolito also urged LGUs to commit first and accept responsibilities before the project is implemented. She added that to do so, LGUs and DPWH must have an agreement.

For the wrap up of the meeting, **Mr. Ray Abejo** mentioned that the idea of sector loan is to protect the area of Sta. Ana suburbs and Poblacion area. The sector loan plans to continue an existing dike project by the DPWH. However, there is no final design yet and specific site as to where the dike would be constructed, therefore, areas that shall be affected were not yet finalized.

With regards to the issue of right of way **Engr. Grecile Christopher Damo** said that they are pushing LGUs to be a counterpart. He also suggested non-structural measures that need to be observed and implemented since flooding can still occur after the diking.

The meeting concluded with a reminder of the activities for the following day.

Prepared by:

Kazuto SUZUKI
Structural Engineer
JICA Preparatory Study Team

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Approved by

MINUTES OF THE MEETING
THIRD STAKEHOLDERS' MEETING
THE PREPARATORY STUDY FOR SECTOR LOAN ON
DISASTER RISK MANAGEMENT
Tagoloan Conference Hall
Municipality of Tagoloan, Region X
September 24, 2009

ATTENDEES:

Government of Tagoloan City

33. Mr. Eric P. Ragandang	-	LGU-Tagoloan
34. Mr. Rey C. Abejo	-	Mayor's Office
35. Mr. Clarito Lucagbo	-	District Office
36. Kag. Santos Escabarte	-	Brgy. Sta. Ana
37. Mr. Rene Embrado	-	Brgy. Capt. Sta. Cruz
38. Mr. Marlon C. Adome	-	Brgy. Kagawad Natumolan
39. Mr. Rusendo A. Manto	-	Brgy. Kagawad Natumolan
40. Ms. Nita N. Agusan	-	Brgy. Kagawad
41. Mr. Mario Charlie Emano	-	Brgy. Poblacion
42. Mr. Jonathan A. Gomes	-	LGU-Tagoloan
43. Ms. Maristel E. Emano	-	Mayor's Office
44. Eng. Pompeyo S. Bolotaolo	-	Engineering Office-LGU
45. Ms. Audie G. Padugan	-	SB Member
46. Mr. Pando U. Lu	-	HRMO
47. Mr. Odencio Taglobo	-	HRMO
48. Mr. Roando M. Pacumbot	-	Provincial Engr. Office
49. Ms. Jacelle V. Lacuna	-	Provincial Engr. Office
50. Ms. Loren Babiga	-	PSWDO
51. Mr. Elmo Ragandang	-	Brgy. Sta. Ana
52. Mr. Alberto A. Manio	-	Bgry. Natumolan
53. Ms. Lorely A. Dacoroon	-	Brgy. Mohon
54. Mr. Mabini V. Nacasabong	-	Brgy. Mohon
55. Mr. Gene A. Baculpo	-	LGU-MEO
56. Mr. Gabriel O. Gumain	-	Brgy. Sta. Cruz
57. Mr. Danilo C. Matias	-	PDCC, Misamis Oriental
58. Ms. Maria Liza Dael	-	LGU Tagoloan
59. Ms. Edwina Escabarte	-	LGU Tagoloan
60. Ms. Darilyn Tubo	-	LGU Tagoloan
61. Ms. Arcelia Randina	-	LGU Tagoloan

DPWH

4. Eng. Grecile Christoper Damo	-	DPWH-FCSEC
5. Eng. Loyd Lumagbas	-	DPWH-X, Buwa, CDO
6. Eng. Daniel Urracma	-	DPWH-X, Region X
7. Ms. Marites Padiang	-	DPWH-X Regional Office
8. Mr. Edward	-	DPWH-X
9. Mr. Achilles B. Pimentel	-	DPWH Misamis Oriental 2nd

Other Agency

13. Mr. Osin A. Sinsua, Jr. - MGB-DENR-X
14. Mr. Doy Resma - PIA
15. Mr. Ricardo A. Mercado - PAGASA Region X

JICA Study Team

4. Mr. Hideki Imai - Environmental and Social Specialist
5. Mr. Kazuto Suzuki - Structural Engineer

Local Consultant Conducting IEE

3. Ms. Bethela Castro-DelNero - Env't Specialist, CESM
4. Mr. Aldwin Camance - Team Leader CESM

Local Consultants

1. Mr. Susumu Heishi - WCI Consultant

Academe / Religious / NGO's – Non-Government Organization / PO's – People's Organization

2. None

Communities

2. None

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26. MENRO – Municipal Environmental and Natural Resource Office
27. MSWDO – Municipal Social Welfare and Development Office
28. NWRB – National Water Resource Board

Proceedings:

Mr. Ray Abejo of Tagoloan LGU opened the third stakeholders meeting in Bisaya followed by introduction of Engr. Aldwin Camance.

Engr. Kazuto Suzuki, the first to present gave the overview of the meeting. He cited topics to be tackled such as social and environmental issues and mitigation plans. He provided a satellite image of Tagoloan and pointed out dike systems of the DPWH. CLUPS that show build up areas and agriculture areas were also displayed. He explained flood inundation areas, flooding analysis, excavation areas along with drainage improvement systems and dike systems that all meet the terms of the study. Mangroves he expressed were areas that need protection as climate change was also considered. Finally, the construction cost would be 1 billion Pesos. An agreement between the LGUs and DPWH was advised.

Engr. Aldwin Camance explained the previous presentation in detail. He urged the audience to ask questions. In his presentation he gave results for the environmental and social surveys conducted. The data showed a total of 54 respondents wherein there is a small number of people who used concrete signifying impermanent structures. This indicated easier relocation and proliferation of informal dwellers. Other indications included uncertainty of their own house and areas. Most respondents agreed on resettlement and some depended on the conditions and wanted to get more information about the project. He also warned against people who suddenly build houses in the hope of being part of the compensation.

Subsequently, Engr. Aldwin Camance presented existing dikes and bridges. He followed this with a computer generated model that predicts flood patterns with and without project. Hence, there is a need to excavate some areas based on this simulation. Another important point Engr. Aldwin Camance brought up was the need to include the effect of climate change in accordance to the project. He also mentioned that there should be about 50 meters coastal control area, as precautionary measure of rising water level due to climate change.

Question:

How will the proposed change in the CLUP affect plans of Industrial Firm or possible locator of Phividec in putting up a dockyard in the proposed conservation area?

Engr. Kazuto Suzuki:

Recommends that Industrial Firm or possible locator of Phividec will follow the proposed alignment of the dike area.

Engr. Grecile Christopher Damo:

Industrial Firm or possible locator of Phividec have to secure permits and present plans to LGU before constructing anything to conform to standards.

Non-Structural Measures:

The next speaker, Engr. Grecile Christopher Damo, presented on non-structural measures. He also gave a background on sector loan and disclosed the 10 billion pesos allocated for sector loan that can benefit 10 river basins.

Mr. Mercado from PAGASA Cagayan de Oro came next as he described the Community Based Flood Early Warning Systems and explained why they are prone to flooding.

There was a discussion about the community based system and non-structural mitigation methods i.e. watershed management, etc.

Closing, Requirements and Approval of the Project:

The meeting was closed by Engr. Kazuto Suzuki informing the audience that he will consider all the recommendations of the concerned stakeholders.

Basically, the flood mitigation plan that JICA Study presented for Tagoloan was approved by stakeholders.

Prepared by:

Kazuto SUZUKI
Structural Engineer
JICA Preparatory Study Team

(1st Revision)
Revised by

(2nd Revision)
Revised by

Approved by