# APPENDICIES

# APPENDIX-1

# LIST OF PARTIES CONCERNED

## Appendix 1: List of Parties Concerned

Department of Energy (DOE)
Renewable Energy Management Bureau (REMB)

| | |
|---|---|
| Mr. Mario C. Marasigan | Director |
| Mr. Ronnie Sargento | Chief of HOEMD Division |
| Mr. Epifanio G. Gacusan | Senior Science Research Specialist |
| Mr. Arturo F. Torralba | Senior Science Research Specialist |
| Mr. Winifredo S. Malabanan | Senior Science Research Specialist |
| Mr. Rey V. Salvania | Senior Science Research Specialist |
| Mr. Dante L. Castillo | Senior Science Research Specialist |
| Mr. Elwin T. Pantujan | Science Research Specialist |
| Ms. J. L. Morante | Administrative Aide IV |
| Ms. Ida A. Madrideo | Administrative Aide IV |
| Ms. Monaliza S. Verma | Administrative Aide IV |
| Mr. Victorio R. Raagas | Senior Science Research Specialist |

Information Technology Management Services (ITMS)

| | |
|---|---|
| Mr. J.P. Raum | Chief of ITS Division |
| Mr. Romeo S. Anano | Senior Science Research Specialist |
| Mr. Raul C. Drapete | Senior Science Research Specialist |
| Mr. Wy Robie Osongco | Senior Science Research Specialist |

Planning Bureau

| | |
|---|---|
| Mr. Emmanuel Talag | Senior Science Research Specialist |
| Mr. Jason Jude | Geologist |

Alternative Fuels and Energy Technology Division

| | |
|---|---|
| Ms. Loudes Maria A. Capricho | Supervising Science Research Specialist |

Philippine Oil Company Renewable Corporation (PNOC- RC)

| | |
|---|---|
| Mr. Antonio G. Buenviaje | Project Engineer |
| Mr. Jim. M. Venezvola. Jr. | Project engineer |

National Power Company Small Power Utility Group (NPC-SPUG)

| | |
|---|---|
| Mr. Melburgu S. Chiu | Vice President |

Department of Public Works and Highway (DPWH)

| | |
|---|---|
| Mr. Arthur M. Narciso | GIS Specialist |

National Electrification Authority (NEA)

| | |
|---|---|
| Mr. Mr. Rod N. Padua | Manager |
| Mr. Wilfredo Bucsit | Engineer |

National Grid Corporation of the Philippines (NGCP)

| | |
|---|---|
| Mr. Melchor P. Valdeabella | Chief |
| Ms. Rosicar E. Escober | Chief |
| Mr. Medel P. Limsuan | Assistant Chief |

Flood Control Sabo Engineering Center (FCSEC/DPWH)

| | |
|---|---|
| Mr. Grecile Christopher R. Damo | Engineer III |

Department of Envirnment and Natural Resources (DENR)

| | |
|---|---|
| Ms. JOYCELINE A. GOCO | Director |
| Mr. Roberto L. De Leon | Chief |
| Mr. Diosmedado T. Cocal | Chief |

Philippines Institute of Volcanology and Seismology (PHIVOLCS)

| | |
|---|---|
| Mr. Julio P. Sabit | Supervising Science Research Specialist |

National Commission on Idigenous Peoples (NCIP)

| | |
|---|---|
| Ms. Myrna L. Caoagas | Director |

Development Bank of the Philippines (DBP)

| | |
|---|---|
| Mr. Rustico Moli D. Cruz | Director |
| Ms. Mariam Isolde G. Salvador | Program Developer Officer |

Land Bank

| | |
|---|---|
| Mr. Jose Pepito B. Gupo | Chief |
| Ms. Josefina A. Ramos | Chief |

Local Government Unit - Guarantee Corporation

| | |
|---|---|
| Mr. Ernesto H Hernandez Jr. | Account Officer |
| Ms. Irmina V. Iya | Account Officer |

Sibulan Municipality (LGU-Sibulan)

| | |
|---|---|
| Mr. Ronilo Duran | Director |

Calatrava Municipality (LGU-Calatrava)

| | |
|---|---|
| Ms. Hon. Araceli T. Somosa | Mayor |
| Mr. Ernesto P. Porsica | Engineer |

Mabinay Municipality (LGU-Mabinay)

| | |
|---|---|
| Mr. Hou Ernie T. UY | Mayor |

National Economic and Development Agency (NEDA)

| | |
|---|---|
| Ms. Gizella Marie A. Herrena | Senior Economic Specialist |
| Ms. Chiristine G. Danao | Senior Economic Development Specialist |
| Mr. Art Reagan M. Jarin | Economic Specialist |

Wholesale Electricity Spot Market (WESM)

| | |
|---|---|
| Ms. Elaine De Guzman Gonzales | Department Head |

Cooperative Development Authority (CDA)

| | |
|---|---|
| Mr. Rodorigo Rebello | Cooperative Development Specialist |

Negros Oriental II Electric Cooperative, Inc. (NORECO2)

| | |
|---|---|
| Mr. Chito S. Lozano | Engineering Manager |

V-M-C Rural Electric Services Cooperative, Inc. (VRESCO)

| | |
|---|---|
| Mr. Arturo A. Caprera, Jr. | Manager |

Oriental Mindoro Electric Cooperative, Inc. (ORMECO)

| | |
|---|---|
| Mr. Romeo N. Cuasay | General Manager |

Antique Electric Cooperative, Inc. (ANTECO)

| | |
|---|---|
| Mr. Ludovico Lim | General Manager |

JICA Philippine Office

| | |
|---|---|
| Mr. Takahiro SASAKI | Chief Representative |
| Mr. Katsumasa HAMAGUCHI | Representative |
| Ms. Flerida C. Chan | Section Chief |
| Ms. Jennifer Erice | Officer |

# APPENDIX-2

# LIST OF COLLECTION DATA

# Appendix 2 List of Collected Data

(The Study Project on Resource Inventory on Hydropower Potential in the Philippines)

| No | Title of the Documents (URL) | Form (Books, Video, Map and Picture) | Original/ Copy | Publisher | Year |
|---|---|---|---|---|---|
| 1 | PDP 2009-2030 | Electronic Data | Copy | DOE | 2009 |
| 2 | Transmission Development Plan (2007-2016) | Electronic Data | Copy | NTC | 2007 |
| 3 | Transmission Development Plan 2009 | Electronic Data | Copy | NGCP | 2009 |
| 4 | O'ILAW Program Terminal Report | A4 | Copy | DOE | 2008 |
| 5 | 2009 POWER SECTOR SITUATIONER | Electronic Data | Copy | DOE | 2009 |
| 6 | Electric Distribution Utilities Location and Jurisdiction | Electronic Data | Copy | NEA | 2009 |
| 7 | NEA Rural Electrification Chronicle | CD | Original | NEA | 2009 |
| 8 | National Renewable Energy Plans and Programs | Electronic Data | Copy | DOE | 2011 |
| 9 | Competition in Electricity Markets in the Philippines | Electronic Data | Copy | University of Philippines | 2008 |
| 10 | WESM_Investment Forum 2007 | Electronic Data | Copy | DOE | 2007 |
| 11 | Renewable Energy Act of 2008 | Paper Publication | Copy | DOE | 2008 |

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(The Study Project on Resource Inventory on Hydropower Potential in the Philippines)

| No | Title of the Documents (URL) | Form (Books, Video, Map and Picture) | Original/ Copy | Publisher | Year |
|---|---|---|---|---|---|
| 12 | 16th EPIRA Status Report | Electronic Data | Copy | DOE | 2010 |
| 13 | PSALM_Update on the Status and Opportunities in Privatization 2007 | Electronic Data | Copy | DOE | 2007 |
| 14 | C01_RE Contracts April 2011 | Electronic Data | Copy | DOE | 2011 |
| 15 | C02_RE Contract Applying | Electronic Data | Copy | DOE | 2011 |
| 16 | E01_Phil-Exist-Mini-3rd | Electronic Data | Copy | DOE | 2010 |
| 17 | E02_Phil-Exist-Major-3rd | Electronic Data | Copy | DOE | 2010 |
| 18 | P01_Phil-Prop-Mini-3rd | Electronic Data | Copy | DOE | 2010 |
| 19 | P02_Phil-Prop-Major-3rd | Electronic Data | Copy | DOE | 2010 |
| 20 | P03_NEA_Updated Hydro potential sites | Electronic Data | Copy | DOE | 2010 |
| 21 | P04_NPC Study in Luzon | A4 | Copy | NPC | 1987 |
| 22 | Dam in the Philippines | A4 | Copy | DPWH/JICA | 2000 |

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(The Study Project on Resource Inventory on Hydropower Potential in the Philippines)

| No | Title of the Documents (URL) | Form (Books, Video, Map and Picture) | Original/ Copy | Publisher | Year |
|---|---|---|---|---|---|
| 23 | Local Administration in Philippines | Paper Publication | Copy | CLAIR | 1998 |
| 24 | Climate Regions in the Philippines | Electronic Data | Copy | PAGASA | 2004 |
| 25 | Impacts of ENSO on Philippines Annual Rainfall | Electronic Data | Copy | PAGASA | 2005 |
| 26 | Climate Change Issues and Related Extreme Weather Conditions | A4 | Copy | PAGASA | 2009 |
| 27 | Business Hand Book in the Philippines | Paper Publication | Original | Japanese Chamber of Commerce | 2006 |
| 28 | Revised Procedure Manual for DENR Administrative Order | Paper Publication | Original | DENR | 2007 |
| 29 | DENR-DOE Memorandum of Agreement On Streamlining of EIS Process for Energy Projects | A4 | Copy | DOE/DENR | 1999 |
| 30 | The free and prior informed consent (FPIC) guidelines of 2006 | A4 | Copy | NCIP | 2006 |
| 31 | NAMRIA Products and Service | Electronic Data | Copy | NAMRIA | 1987 |
| 32 | 1/50,000 Topological Map (Luzon and Visayas) | Map | Original | NAMRIA | 1987 |
| 33 | SRTM of Philippines | Electronic Data | Copy | USGS | 2011 |

# Appendix 2 List of Collected Data

(The Study Project on Resource Inventory on Hydropower Potential in the Philippines)

| No | Title of the Documents (URL) | Form (Books, Video, Map and Picture) | Original/ Copy | Publisher | Year |
|---|---|---|---|---|---|
| 34 | Road and Bridge Network in the Philippines | Electronic Data | Copy | DPWH | 2011 |
| 35 | Climate Statistics | A4 | Copy | PAGASA | 2005 |
| 36 | Stream Flow Data 1980-2000 | Paper Publication | Original | DPWH | 2001<br>2002 |
| 37 | Geology and Tectonic Map of the Philippines | Electronic Data | Copy | DENR | 2009 |
| 38 | Distribution Map of Limestone Deposits in the Philippines | Electronic Data | Copy | DENR | 2011 |
| 39 | Distribution of Active Faults & Trenches in the Philippines | Electronic Data | Copy | PHIVOLCS | 2000 |
| 40 | Distribution of Volcanoes in the Philippines | Electronic Data | Copy | PHILVOLCS | 2008 |
| 41 | Mainstreaming Disaster Risk Reduction in Subnational Development and Land Use/Physical Planning in the Philippines | A4 | Copy | NEDA | 2008 |
| 42 | Distribution Map of Earthquakes in the Philippines | A4 | Copy | USGS | 2010 |
| 43 | Metallic Mineral Deposits of the Philippines | Electronic Data | Copy | DENR | 2011 |
| 44 | Non Metallic Mineral Deposits of the Philippines | Electronic Data | Copy | DENR | 2011 |

# Appendix 2 List of Collected Data

(The Study Project on Resource Inventory on Hydropower Potential in the Philippines)

| No | Title of the Documents (URL) | Form (Books, Video, Map and Picture) | Original/ Copy | Publisher | Year |
|---|---|---|---|---|---|
| 45 | Showing the Location of Protected Areas in the Philippines | Electronic Data | Copy | DENR | 2010 |
| 46 | National Commission on Indigenous People | Electronic Data | Copy | DENR | 2010 |
| 47 | Ethnographic Map of the Philippines | A4 | Copy | DENR | 2010 |
| 48 | Philippine Map Showing the Approved CADTs as of February 2009 | A4 | Copy | DENR | 2009 |

# APPENDIX-3

# MINUTES OF MEETINGS

**Minutes of Meeting during the 1st Site Investigation**

**The Study Project on Resource Inventory on Hydropower Potential in the Philippines**

Between NEWJEC Inc. and Hydropower and Ocean Energy Management Division,

Renewable Energy Management Bureau Department of Energy (DOE)

Japan International Cooperation Agency (JICA) Study team had conducted the 1st Site Investigation on "the Study Project on Resource Inventory on Hydropower Potential in the Philippines" (the Study) from March 15th to April 13th in the Philippines.

During the 1st field investigation, the study team explained his proposals on March 19, 2010 and both of the study team and DOE discussed on the detailes scope of the Study on March 22 and 26, 2010. The agreed matters are given in the attachment hereto.

Draft inception report is to be revised according to agreed matters between JICA study team and DOE and Inception report will be submitted at the 2nd field investigation.

Manila, 9 April 2010

Yuichi SANO
Team Leader,
The Study Team

Ronie N. Sargento
OIC - Division Chief,
Hydropower and Ocean Energy Management Division

Attachment

1. Scope of the Study

The scope of the Study is to be revised as given in Table 1 through hearing DOE's needs and discussion between JICA study team and DOE. Revised framework of overall Study is shown in Fig. 1.

Detailed scope of the Study, which was agreed between both JICA study team and DOE, is summarized in Table 2.

2. Schedule of the Study

Revised schedule of the Study is given in Table 3. Site reconnaissance will be conducted in the next dry season in 2011 for prioritized potential sites.

3. The capacity range of hydropower potential sites for database

Small, medium and large scale hydropower schemes shall be included in database. Also, run-of-river type and reservoir type schemes are to be involved.

4. Development of hydropower potential database

The National Electrification Administration (NEA), National Power Corporation (NPC) and DOE have studied specific hydropower potential sites all over the Philippines. The NEA has identified about 1,000 mini-hydropower potential sites based on its mini-hydropower program which began in the 1980s. In 2002, restructuring the Philippine electric industry moved ahead. One of barriers to investment of hydropower development has been the lack of organized detailed database on hydropower potential sites, therefore U. S. Department of Energy and National Renewable Energy Laboratory (US-NREL) conducted data collection of hydropower potential sites from the relevant organizations.

Hydropower potential database shall be developed by using the above existing databases and new database as shown in Fig. 2.

5. Map study and Site verification of new hydropower potential sites

DOE requested to add new hydropower potential sites to database with appropriate accuracy for promoting hydropower development.

Both parties agreed that around 150 – 200 new potential sites are to be identified in the maps of 1:50,000, then site reconnaissance of about 50 potential sites which are prioritized by ranking study is to be conducted in order to verify results of map study. Site reconnaissance will be conducted by a local consultant.

6. Screening and ranking of hydropower potential sites

Flowchart of screening and ranking of potential sites is shown in Fig. 3.

Preliminary project layout is examined and construction cost is to be updated . Spreadsheets for ranking study are shown in Fig. 4.

7. Information map and hydropower potential database

All existing and new hydropower potential sites, existing hydropower plants and hydropower plants under construction will be plotted on information map. (see Fig. 4)

Hydropower potential database shall be developed by using Arc view for GIS data and Access.

8. Selection criteria for new hydropower potential sites

New hydropower potential sites are to be selected according to the following criteria, which were discussed with DOE. The target areas shall be discussed and confirmed before starting of the selection.

(1) Priority area (Island)

Mindoro, Masbate, Marindouque, Catanduanes, Ronblon, Panay, Bohole, Negros

(2) Provivce

CAR, Region I, Region III

(3) High demand area

(4) Area supplied by selected ECs

Accessibility, distance from T/L, Socio-environmental issues and so on shall be considered to select potential sites.

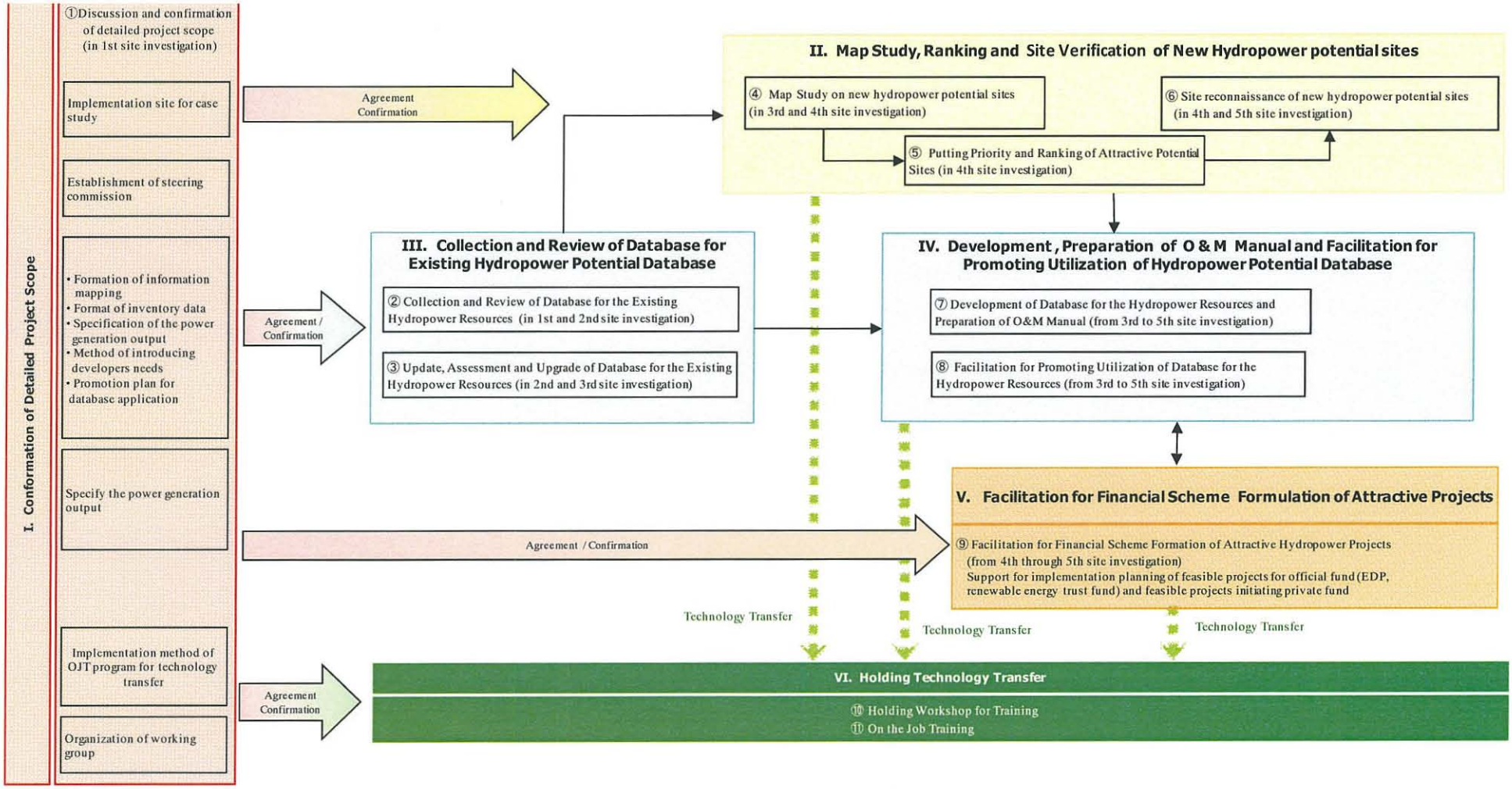



**Fig. 1 Framework of Overall Study**

**Table. 1 Comparison of Project Scope of proposal and revised proposal**

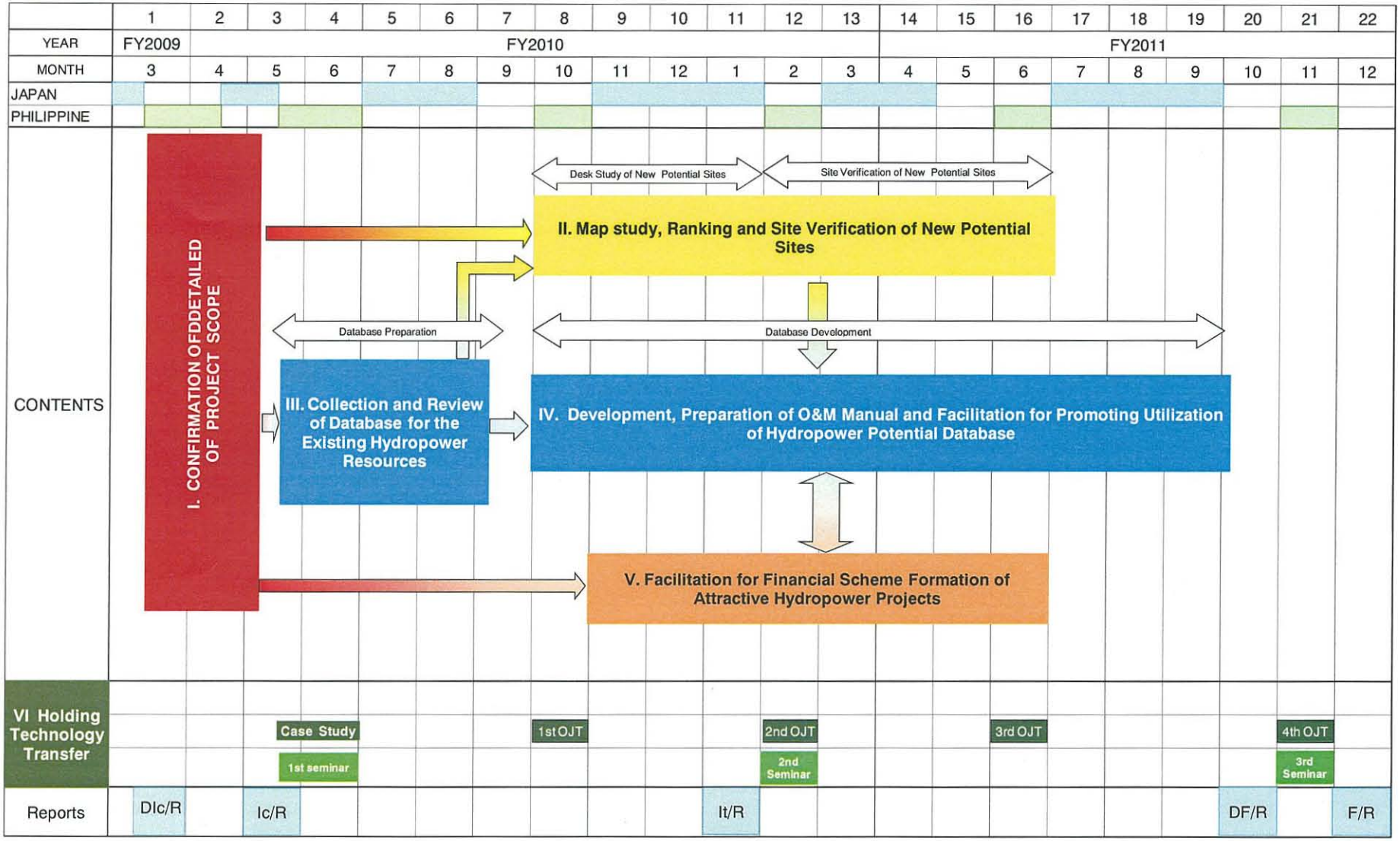
| | Revised | Proposal |
|---|---|---|
| Project Scope | (1) Discussion and Confirmation of the Detailed Scope of Work<br>(2) Collection and Review of Database for the Existing Hydropower Resources<br>(3) Update, Assessment and Upgrade of Database for the Existing Hydropower Resources<br>(4) Map Study of New Potential Sites<br>(5) Putting Priority and Ranking of Attractive Potential Sites.<br>(6) Site Verification of New Potential Sites.<br>(7) Development of Database for the Hydropower Resources and Preparation of O&M Manual<br>(8) Facilitation for Promoting Utilization of Database for the Hydropower Resources<br>(9) Facilitation for Financial Scheme Formation of Attractive Hydropower Projects<br>(10) Technology Transfer for Project Identification of Hydropower Resources, Financial Evaluation and Analysis, Hydropower Engineering etc.<br>(11) Holding Workshop for Training | (1) Discussion and Confirmation of the Scope of Work<br>(2) Collection and Evaluation of Database for the Existing Hydropower Resources and Results of F/S (Feasibility Study)<br>(3) Implementation of Case Study for New Potential Sites of Hydropower Resources<br>(4) Development of Database for the Hydropower Resources and O&M Manual<br>(5) Facilitation for Promotion of Utilizing Database for the Hydropower Resources<br>(6) Facilitation for Identifying Projects Applying for Financial Assistances<br>(7) Technology Transfer for Project Identification of Hydropower Resources and Database O & M<br>(8) Holding Seminars |
| Components of the Study | I. Confirmation of Detailed Project Scope<br>II. Map study, Ranking and Site Verification of New Potential Sites<br>III. Collection and Review of Database for the Existing Hydropower Resources<br>IV. Development, Preparation of O&M Manual and Facilitation for Promoting Utilization of Hydropower Potential Database<br>IV. Facilitation for Financial Scheme Formation of Attractive Hydropower Projects<br>V. Holding Technology Transfer (On-the-job Training and Workshop) | I. Determination of detailed scope<br>II. Planning of new hydropower projects<br>III. Development, O & M and Facilitation of utilization promotion of hydropower potential database<br>IV. Facilitation for producing implementation plan of attractive projects<br>V. Implementation of technology transfer (on-the-job-training and seminar) |

## Table 2 Detailed Scope of the Study

| item | Proposal | Agreed |
|---|---|---|
| Range of hydropower potential sites | Basically, 0.1 – 10MW | No upper limitation small, medium and large scale hydropower shall be involved<br>Run-of-River and Reservoir schemes |
| Information map | | |
| Range of potentials | DOE database, small-scale of 94 sites and large-scale of 60 sites | All potential sites selected by DOE, NEA, NPC shall be included<br>No upper limitation |
| Database | | |
| Range of potentials | Potential sites which have coordinates and where the location can be identified on the 1:50,000 map are to be included. | Agreed |
| Program | GIS (Arc view) , Form (Access) | Agreed |
| Base map | GIS base map is 1:50,000 topographic map. | Agreed |
| Data Format | Basically, DOE database format<br>To add socio-environmental items, leveling construction cost, GIS data etc. | Agreed |
| Potential sites for case study | | |
| Sites for case study | 3 to 4 prospective potential sites are to be selected and site reconnaissance and pre-feasibility study is to be conducted. | Site reconnaissance is to be carried out at about 50 selected sites.<br>Pre-feasibility is not necessary |
| Schedule | Field investigation is planned at the 2nd site investigation based on discussion with DOE. | Field investigation is to be conducted during the 4th site investigation in February, 2011 after ranking study. |
| On-the-job-training, workshop | | |
| Current Needs | See DIcR | DOE requested design programs in order to examine F/S submitted by applicants, the Consultant replied that basic program (stability analysis etc.) and technical standards (JICA project in Lao PDR) will be available. |
| Contents of training program | See DIcR | To consider DOE's needs, i.e. capacity development to examine F/S of medium to large-scale hydropower projects.<br>Dam design, Transmission line design etc. are to be included.<br>Detailed training program shall be informed beforehand |

| | | |
|---|---|---|
| Promoting utilization of database | | |
| Basic policy | - Needs study<br>- Promotion of Database utilization through Wab-site<br>- Workshop for promotion of Database<br>- Setting up the organization in charge of promotion of the database utilization<br>- Implementation of Assistance measure for implementation of project | - Promotion of Database utilization through Wab-site |
| Working Group (WG) | | |
| purpose | Effective and efficient transfer technology and working together. | Agreed |
| Working group | Hydropower WG<br>Social Environmental and Economic / Financial Analysis WG<br>Database WG | Agreed |
| member | DOE, NEA, other related organizations | Ocean & Hydro power division, DOE mainly, But not limited |
| Steering Committee | | |
| purpose | The Consultant recognized that GIS data developed government agencies are essential for reliable and useful database, therefore steering committee is important to support to collect data. | At present, not necessary.<br>DOE explained that Steering committee is required after F/S, consists of investor/developer (PNOC-RC, LGU), bank (DBP), Market (EC, PU) and DOE. |

## Table 2 Tentative Schedule of tha Study



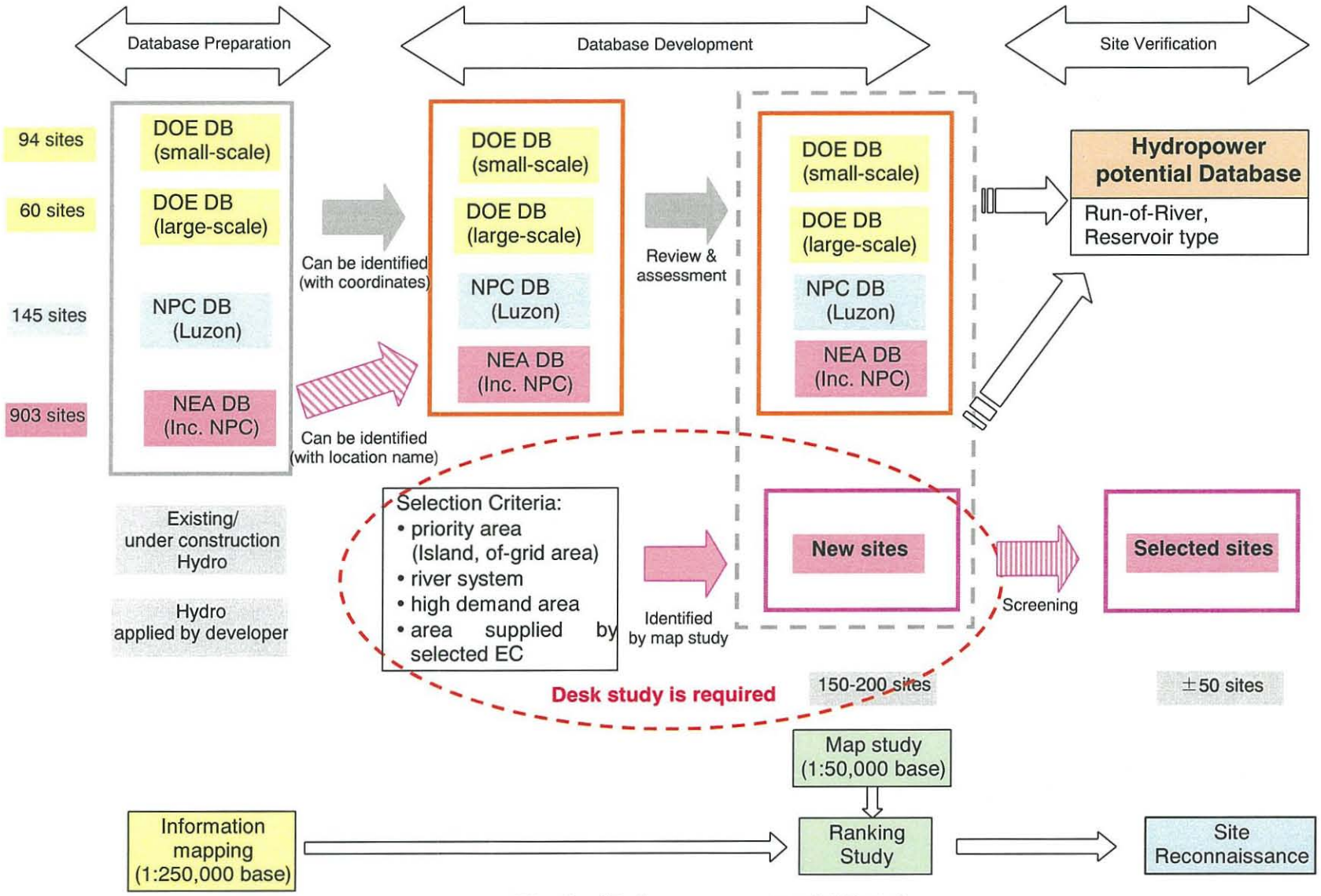



**Fig. 2 Hydropower potential Database**

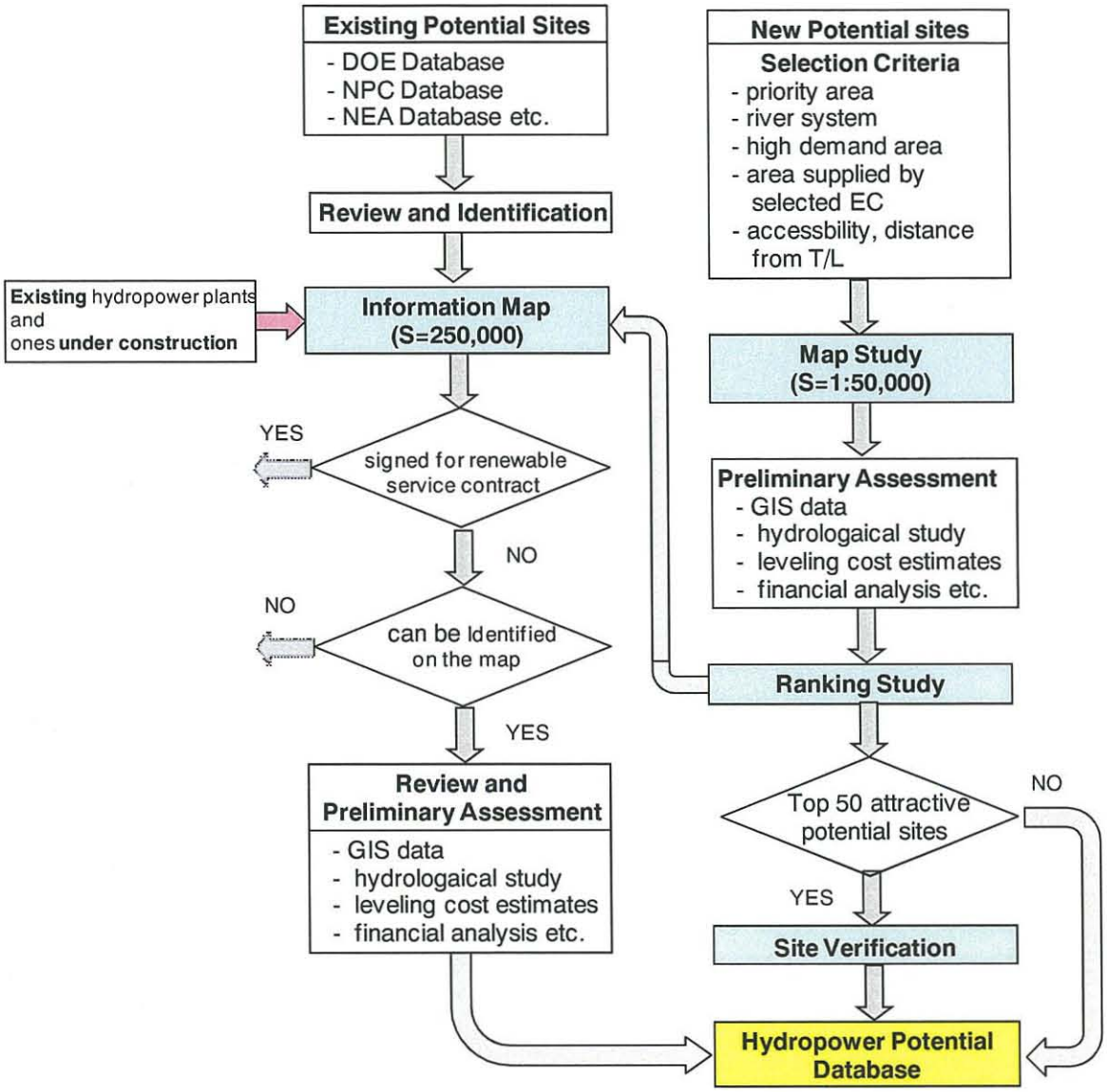
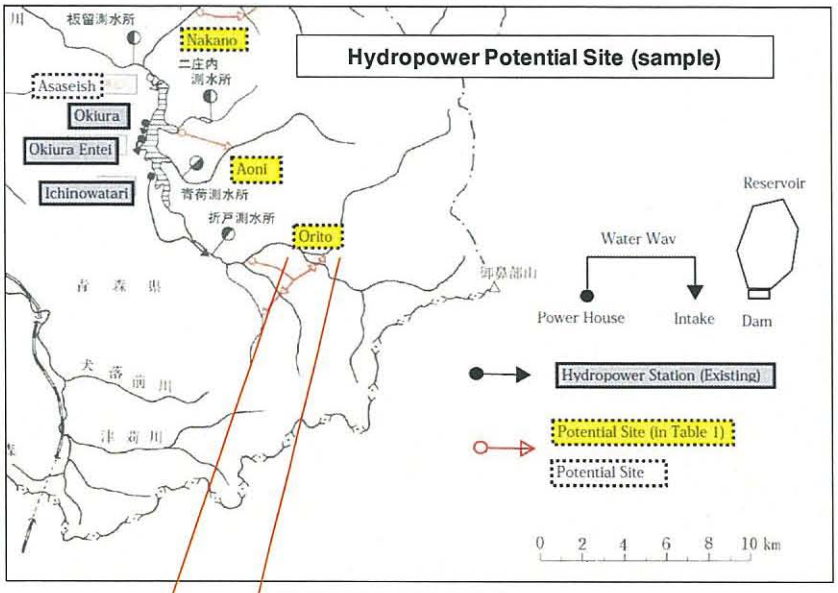



**Fig. 3 Flowchart of Development of Hydropower potential Database**




Item List (example)

- Location
- Maximum Output
- Power generation type
- Basin Area
- Maximum Discharge
- Effective Head

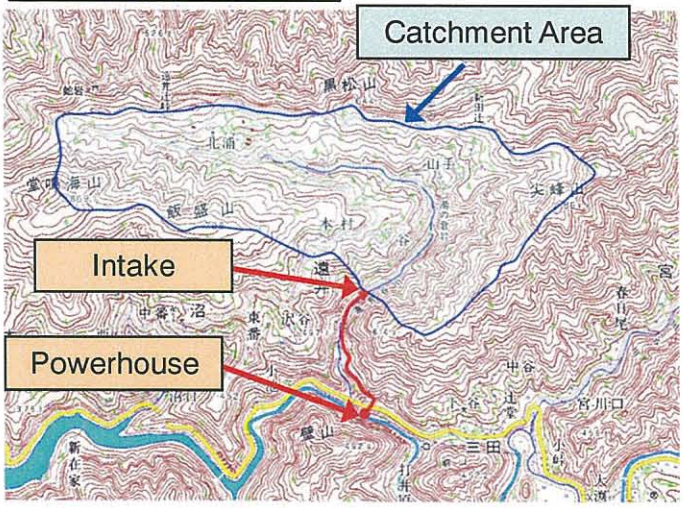
...etc

**Inventory Database**

| River System | River Name | Point | Maximum Output (kW) | Possible Annual Electric Generation ($10^3$kWh) | Power Generation Type | Basin Area ($Km^2$) | Maximum Discharge ($m^3/s$) | Effective Head (m) |
|---|---|---|---|---|---|---|---|---|
| | | Orito | 4400 | 21800 | Run-of-River | 98.6 | 7.00 | 76.5 |
| | | Aoni | 2300 | 12000 | Run-of-River | 22.3 | 1.70 | 166.7 |
| | | Nakano | 3600 | 15600 | Run-of-River | 36.8 | 3.00 | 144.6 |

Information map (1:250,000 base)

Map study (1:50,000 base)




River Name, Place, Basin Area

| Item | Contents |
|---|---|
| River System | Arita |
| River | Arita |
| Tributary | Toidani |
| Intake | Shimoyazisaki Shimizu-cho |
| | Arita-gun Wakayama-ken |
| Power Station | Shimoyazisaki Shimizu-cho |
| | Arita-gun Wakayama-ken |
| Basin Area | 6.56 $km^2$ |
| Steam-Gauging Point | Omata |
| Maintenance Flow Discharge | 0.50 $m^3/s/100km^2$ |
| Intake Point | 0.03 $m^3/s$ |

Generation Plan

| Item | Contents |
|---|---|
| Type | Run-of -River |
| Intake Water Level | 340.00 m |
| Discharge Water Level | 205.00 m |
| Gross Head | 135.00 m |
| Installed Capacity | 270 kW |
| Turbine Discharge | 0.28 $m^3/s$ |
| Effective Head | 129.52 m |
| Power Generation Capacity | 1,599 MWh |
| Total Construction Cost | 354.0 PHP (million) |
| Unit Cost of Power Generation | 151.4 PHP / kWh |
| Rank | B |

| Contents | | |
|---|---|---|
| rete Gravity Dam | | |
| 3.00 | Length (m) | 30 |
| | Length (m) | 0 |
| ad Laying Type | | |
| 0.55 | Length (m) | 1,100 |

**Open Channel or Tunnel

| | | | |
|---|---|---|---|
| Spillway | Diameter (m) | Length (m) | |
| Tailra | | | |
| Open Channel | Width (m) | | 10 |
| Turbi | | | |
| Generator | AC 3-Phase Synchronous | | |
| Trans | | | |

Generation energy

Construction Cost

Unit Cost

Economic Evaluation

100Php = 197.7Yen

Note: Duration curve calculation, Optimum power discharge, Optimum design of major structures, Preliminary Cost estimates are included

Ranking Study (1:50,000 base)

**Fig. 4 Information map and Spreadsheets for ranking study**

**Minutes of Meeting during the 2nd Site Investigation**

**The Study Project on Resource Inventory on Hydropower Potential in the Philippines**

Between Hydropower and Ocean Energy Management Division,

Renewable Energy Management Bureau Department of Energy (DOE) and NEWJEC Inc.

Japan International Cooperation Agency (JICA) Study team had conducted the 2nd Site Investigation on "the Study Project on Resource Inventory on Hydropower Potential in the Philippines" (the Study) from May 25 to July 2, 2010 in the Philippines.

During the 2nd Site Investigation, the study team explained the Inception Report, which was revised based on the discussion on the Draft Inception Report during the 1st Site Investigation in last March with the DOE. Both of the parties discussed the scope of the Study on June 1, 2010. After the meeting the study team and DOE have continued to discuss the details of the scopes in the Inception Report. Finally, the DOE approved the Inception Report.

Agreed matters between JICA study team and the DOE during the 2nd Site Investigation are described hereinafter.

*Manila, 25 June 2010*

*Mr. Mario C. Marasigan*
*Office-in-Charge Assistant Secretary*
*Director, Renewable Energy Management Bureau*
*Department of Energy*

*for*

*Yuichi SANO*
*Team Leader,*
*The Study Team*

Attachment

(1) The DOE fully assists and supports to collect GIS database to be required for development of the database of hydropower resources from relevant agencies.

(2) The DOE agreed and designated C/Ps to establish the following Working Groups,
- Hydropower Study Working Group
- Database Working Group
- Environmental / Social Consideration and Economic / Financial Analysis Working Group

(3) The programs of the Workshop for training shall be coordinated with the DOE in advance and the same can be revised in accordance with DOE's requests.

(4) New hydropower potential sites are to be selected in target areas discussed and confirmed during the 2nd Site Investigation.

1) Priority area (Island)
Mindoro, Masbate, Marinduque, Romblon, Panay, Bohol, Negros, Palawan and Samar

2) Region
CAR, Region I, Region II

DOE requested to include the Mindanao Island as a target area, however the Consultant explained that it is difficult to include the Mindanao Island because of safety, budget and duration of the Project in the meeting with DOE on June 11th 2010.

**Minutes of Meeting during the 4th Site Investigation**

**The Study Project on Resource Inventory on Hydropower Potential in the Philippines**

Between Renewable Energy Management Bureau Department of Energy (DOE) and NEWJEC Inc.

JICA study team made a presentation on Hydropower Resource Database (HRD) to personnel of REMB (Renewable Energy Management Bureau)-DOE on April 14th, 2011 at the REMB-Conference Room. JICA study team answered the question of REMB-DOE about the overall system and performance of the HRD (Attendant list is attached).

Mr. Marasigan gave his profound consent to the overall system and performance of the HRD. HRD system will be finalized to add the location data of intake and powerhouse to river profiles. The status of the projects is classified into three conditions as follows;

1. Potential sites
   - -Signed
   - -Under-signed
   - -Mini-hydro
   - -Major-hydro
   - -NPC sites
2. Existing sites
   - -Existing mini-hydro
   - -Existing major-hydro
   - -Other existing dams
3. New Potential sites

Mr. Marasigan and JICA study team agreed with holding the lecture on operation of HRD for REMB-DOE users in August, 2011.

*Manila, 14 April 2011*

*Mr. Mario C. Marasigan*
*Director IV, Renewable Energy Management Bureau Department of Energy*

*for*
*Yuichi SANO*
*Team Leader,*
*The Study Team*

Attachment

**- Attendant list -**

REMB-DOE

Mr. Mario C. Marasigan　　Ms. Marrissa P. Cerezo

Mr. Arturo F. Torralba, Jr.　　Mr. Elwyn T. Pantujan

NEWJEC Inc.

Mr. Satoshi Yamaoka　　Mr. Hideo Takase　　Mr. Takao Saruhashi

Mr. Ryuichi Nishi　　Mr. Yukohiro Mikumo

**Minutes of Meeting during the 4th Site Investigation**

**The Study Project on Resource Inventory on Hydropower Potential in the Philippines**

Renewable Energy Management Bureau Department of Energy (DOE) and NEWJEC Inc.

JICA study team made a discussion with personnel of REMB (Renewable Energy Management Bureau)-DOE on April 14th, 2011 at the REMB-Conference room (Attendant list attached).
Mr. Marasigan agreed with our proposal of "Recommending organization for exploitation & facilitation of the HRD (Hydropower Resource Database)". Concerning the activity of exploitation and facilitation, roles are prescribed as follows, and personnel in charge are decided as attached document;

1. HOEMD (Hydropower & Ocean Energy Management Division)
   HOEMD accepts inquiries from investors and prepare the providing data by using the HRD. Occasionally, HOEMD provide the face to face interactive service to visiting investors.
2. TSMD (Technical Service Management Division)
   HOEMD provides the information of existing and pending contract to TSMD, then share the information with ITMS (Information Technology Management Section).
3. ITMS
   HOEMD provides the pdf files described the information such as specs, location etc to ITMS. Then ITMS subscribe the pdf files on DOE website for down loading. ITMS assist HOEMD in the field of making the map information etc.

Mr. Marasigan and JICA study team agreed with making an additional confirmation to HOEMD concerning the confidential information that should not be provided from each layer of HRD.

The "Recommending organization for exploitation & facilitation of the HRD" will be finalized to incorporate above additional confirmation.

*Manila, 14 April 2011*

*Mr. Mario C. Marasigan*
*Director IV, Renewable Energy Management Bureau Department of Energy*

*for*
*Yuichi SANO*
*Team Leader,*
*The Study Team*

Attachment

**- Attendant list -**

REMB-DOE

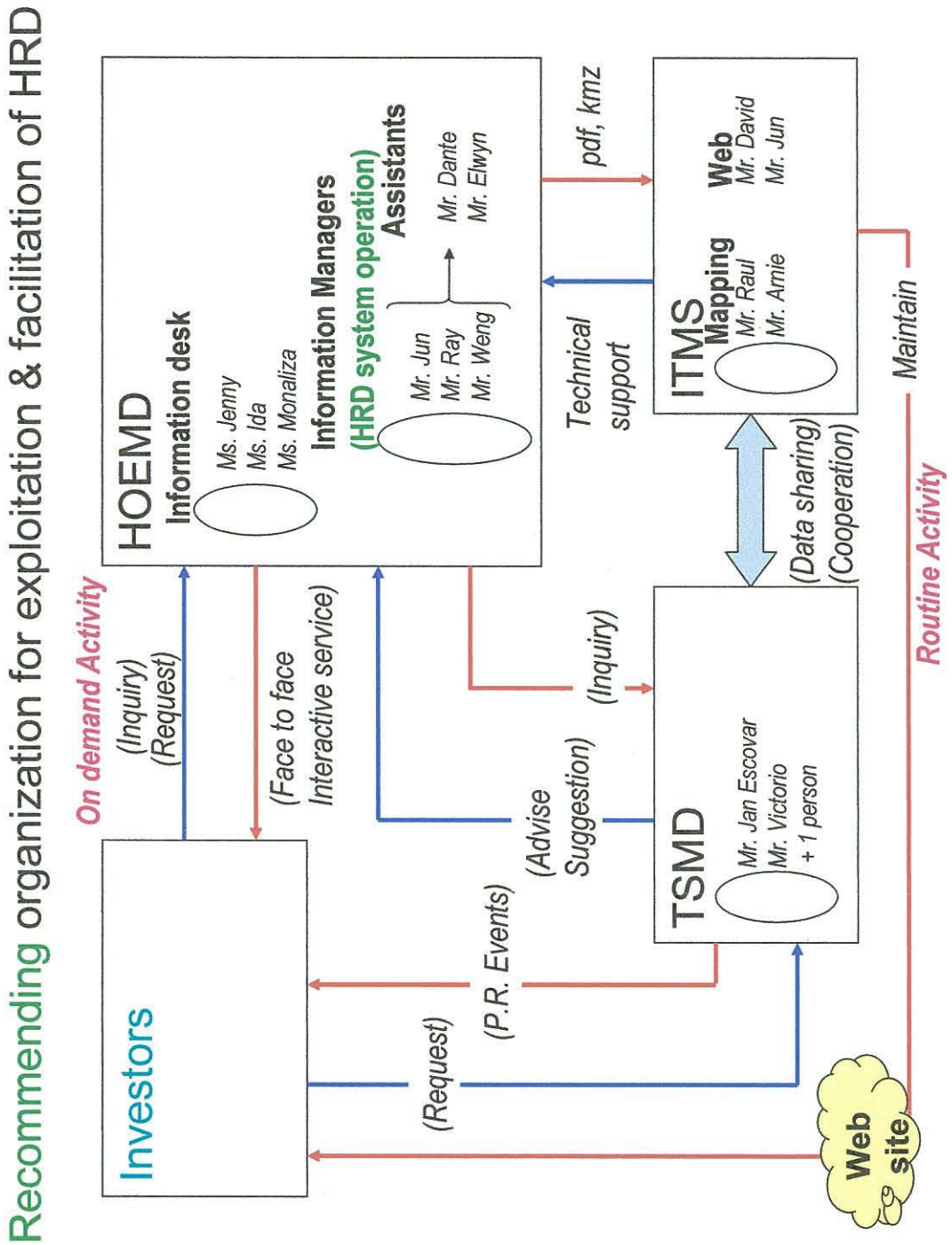
Mr. Mario C. Marasigan　　Ms. Marrissa P. Cerezo

Mr. Arturo F. Torralba, Jr.　　Mr. Elwyn T. Pantujan

NEWJEC Inc.

Mr. Satoshi Yamaoka　　Mr. Hideo Takase　　Mr. Takao Saruhashi

Mr. Ryuichi Nishi　　Mr. Yukohiro Mikumo


Recommending organization for exploitation & facilitation of HRD
HOEMD
Information desk
Ms. Jenny
Ms. Ida
Ms. Monaliza
Information Managers
(HRD system operation)
Assistants
Mr. Jun
Mr. Ray
Mr. Weng
Mr. Dante
Mr. Elwyn
ITMS
Mapping
Mr. Raul
Mr. Amie
Web
Mr. David
Mr. Jun
TSMD
Mr. Jan Escovar
Mr. Victorio
+ 1 person
Investors
Web site
On demand Activity
(Inquiry)
(Request)
(Face to face
Interactive service)
(Inquiry)
(Advise
Suggestion)
(P.R. Events)
(Request)
Technical
support
pdf, kmz
(Data sharing)
(Cooperation)
Maintain
Routine Activity

**Minutes of Meeting during the 4th Site Investigation**

**The Study Project on Resource Inventory on Hydropower Potential in the Philippines**

Between Hydropower and Ocean Energy Management Division,

Renewable Energy Management Bureau Department of Energy (DOE) and NEWJEC Inc.

JICA study team made a presentation to REMB-DOE on April 8th, 2011 at the DOE-Audio Visual Room. After the presentation both parties discussed the overall system and performance of the Hydropower Resource Database (HRD) .

REMB-DOE expressed satisfaction to HRD. The status of the projects is classified into three conditions as follows;

1. Potential sites
   -Signed
   -Under-signed
   -Mini-hydro
   -Major-hydro
   -NPC sites
2. Existing sites
   -Existing mini-hydro
   -Existing major-hydro
   -Other existing dams
3. New Potential sites

REMB-DOE and JICA study team agreed with addition of information to the present status of HRD as shown below;

1) Active volcanoes
2) Active Fault lines
3) Geological map
4) Addition of the weir and powerhouse location on the river profile figure

The HRD will be finalized to incorporate above four additional information and final version will be presented in August, 2011.

*Manila, 8 April 2011*

*Mr. Ronnie SARGENTO*
*Chief, Hydropower and Ocean Energy Management Division , Renewable Energy Management Bureau Department of Energy*

*for* 杉宮 正和
*Yuichi SANO*
*Team Leader,*
*The Study Team*

Minutes of Meeting during the 6th Site Investigation
On Draft Final Report

The Study Project on Resource Inventory on Hydropower Potential in the Philippines
Between Hydropower and Ocean Energy Management Division.
Renewable Energy Management Bureau Department of Energy (DOE) and NEWJEC Inc.

JICA Study team had conducted the 6th Site Invitation on "the Study Project on Resource Inventory on the Hydropower Potential in the Philippines", (the Study) from November 20 to December 3, 2011.
During the 6th site investigation, the Study team submitted and explained the Draft Final Report. DOE gave the comments on Draft Final Report and both parties agreed to reflect the comments and revisions in Final Report.

*Manila, December 2, 2011*

*Mr. Mario C. Marasigan*
*Director, Renewable Energy Management Bureau*
*Department of Energy*

佐野 裕一

*Mr. Yuichi SANO*
*Team Leader*
*The Study Team*

*Mr. Ronnie Sargento, Ph.D*
*Chief. Science Research Specialist*
*Hydropower and Ocean Energy Management Division*
*Renewable Energy Management Bureau*
*Department of Energy*

## Table-1 Comments from DOE and Reply from the Study team (1st Reply)

| | Chapter and page | Comments from DOE | Reply from the Study team |
|---|---|---|---|
| ***Chapter 2 Electricity Power Circumstance in the Philippines*** | | | |
| 1 | 2.6.2 Establishment of National Renewable Energy, page 2-22 | The actual function of NREB shall be referred to the law. | Agreed, to be revised |
| 2 | ditto | Incentives shall be referred to RE Act | Agreed, to be revised |
| ***Chapter 4 Basic Data For Hydropower Resources Database*** | | | |
| 3 | 4.10.3 Price of Water Turbine, Generator and Transmission Line, page 4-66 ~ 4-70 | To be Consistent with the figures or use momentary in US dollars | Agreed, to be revised in US dollars |
| ***Chapter 5 Survey for New Hydro Electric Power Potential Sites*** | | | |
| 5 | 5.8 Economic and Financial Evaluation of Each Promising Power Project , page 5-61 ~ 5-62 | No tables of 5.8-1 and 5.8-2 | To be added a table of calculation results. |
| ***Chapter 6 Study on Projects for Financial Assistance*** | | | |
| 6 | 6.3.3 Hydropower Investor, page 6-23 ~ 6-24 | Why is only one hydro investor presented? | To be added several investors or to delete this chapter |
| 7 | 6.4.2 Current Problems related to Main Mini-Hydro Investments, page 6-26 ~ 6-28 | • Content mentioned in (2) Financial Source Issue relating to Hydropower Investment is not a problem.<br>• Content mentioned in (3) Issues relating to FIT Introduction. | To be reviewed and reply. |
| 8 | 6.4.2 Current Problems related to Main Mini-Hydro Investments, page 6-26 ~ 6-27 | • Content mentioned in (4) Providing Investment Incentives cannot be understood throughout. It is recommended to be better not to discuss this issue. | To be reviewed and reply. |
| 9 | 6.4.3 Proposal for Improvement of Investment Environment, page 6-27 ~ 6-28 | • Content mentioned in (1) Establishment of Investment Promote Committee among NRB is better not to improve or recommended to delete it. | To be reviewed and reply. |
| 10 | 6.4.3 Proposal for Improvement of Investment Environment, page 6-28 | To check the appropriateness of Fig. 6.4-2 Proposal of Framework for Min-Hydropower Investment Promotion<br>To correct the figure according to the followings<br>• NREB is a policy body recommendatory to DOE<br>• NREB separate entry IPO (Investment Promotion Office) is not under the NREB. | To be reviewed and reply. |

| | | | |
|---|---|---|---|
| ***Chapter 9 Issues and Recommendations*** | | | |
| 11 | 9.2 Recommendations, page 9-4 | To review (1) 1) Establishment of Investment Promote Committee among NREB according to comments of the above 7 and 8. | To be reviewed and reply. |
| 12 | 9.2 Recommendations, page 9-5 | To explain (2) Recommendations for Utilization of Promoting Hydropower Potential Sites selected by this Study. | To revise the last sentence "DOE has no experiences ..... To technical training for them" as follows "DOE has experienced the examination of F/S of Mini-hydropower projects, but not Poundage / Reservoir type and large-scale hydropower projects. Therefore, it is required to conduct technical training for those hydropower projects for them." |
| ***Others*** | | | |
| 13 | General | Minor Errors in spelling, grammar, standard nomenclatures etc, | To be correct. |
| 14 | ditto | To use abbreviation | Agreed, to be revised |

*Received by*

*December 2, 2011*

*Mr. Ronnie Sargento, Ph.D*
*Chief. Science Research Specialist*
*Hydropower and Ocean Energy Management Division*
*Renewable Energy Management Bureau*
*Department of Energy*

*Prepared by*

*December 2, 2011*

佐野 裕一

*Mr. Yuichi SANO*
*Team Leader*
*The Study Team*

Minutes of Meeting during the 6th Site Investigation
On Final Report to be published on the JICA Web site

The Study Project on Resource Inventory on Hydropower Potential in the Philippines
Between Hydropower and Ocean Energy Management Division.
Renewable Energy Management Bureau Department of Energy (DOE) and NEWJEC Inc.

JICA Study team had conducted the 6th Site Invitation on "the Study Project on Resource Inventory on the Hydropower Potential in the Philippines", (the Study) from November 20 to December 3, 2011.

During the site investigation, the Study team discussed about Final Report to be published on the JICA Web site with DOE due to confidential data / information regarding promising hydropower potential sites identified in the Study.

JICA Study team explained 2 options to DOE

(1) To submit Final Report excluding confidential data / information for publication on JICA Web-site.
(2) Not to publish Final Report on JICA Web site for any period.

As a result of discussion, DOE and the Study team concluded to explore option (2) and disclosure period on JICA Web site is proposed to be 2 years.

*Manila, December 2, 2011*

*Mr. Mario C. Marasigan*
*Director, Renewable Energy Management Bureau*
*Department of Energy*

佐野 祐一

*Mr. Yuichi SANO*
*Team Leader*
*The Study Team*

*Mr. Ronnie Sargento, Ph.D.*
*Chief. Science Research Specialist*
*Hydropower and Ocean Energy Management Division*
*Renewable Energy Management Bureau*
*Department of Energy*

Minutes of Meeting during the 6th Site Investigation
On Draft Operation and Maintenance Manual of Hydropower Resource Database

The Study Project on Resource Inventory on Hydropower Potential in the Philippines
Between Hydropower and Ocean Energy Management Division.
Renewable Energy Management Bureau Department of Energy (DOE) and NEWJEC Inc.

JICA Study team had conducted the 6th Site Invitation on "the Study Project on Resource Inventory on the Hydropower Potential in the Philippines", (the Study) from November 20 to December 3, 2011.
During the 6th site investigation, the study team installed Hydropower Resource Database (HRD) into 3 PCs and confirmed that HRD systems operate properly by both parties.
Also, JICA Study team submitted and explained Draft Operation and Maintenance (O&M) Manual of HRD. DOE gave the comments on Draft O&M Manual and both parties agreed to reflect the comments and revisions in Final O&M Manual.

*Manila, December 2, 2011*

*Mr. Mario C. Marasigan*
*Director, Renewable Energy Management Bureau*
*Department of Energy*

佐野 裕一

*Mr. Yuichi SANO*
*Team Leader*
*The Study Team*

*Mr. Ronnie Sargento, Ph.D*
*Chief. Science Research Specialist*
*Hydropower and Ocean Energy Management Division*
*Renewable Energy Management Bureau*
*Department of Energy*

Minutes of Meeting during the 6th Site Investigation
On Recommendations of the Study

The Study Project on Resource Inventory on Hydropower Potential in the Philippines
Between Hydropower and Ocean Energy Management Division
Renewable Energy Management Bureau Department of Energy (DOE) and NEWJEC Inc.

JICA Study team had conducted the 6th Site Invitation on "the Study Project on Resource Inventory on the Hydropower Potential in the Philippines", (the Study) from November 20 to December 3, 2011.
During the 6th site investigation, the Study team submitted and explained the Draft Final Report to DOE. The Study team recommended the following actions and both parties agreed to implement these actions as soon as possible.

## 1. Sustainable Operation and Maintenance Hydropower Resource Database (HRD) systems

The JICA study team recommended organization and roles as described in Chapter 7 Development and O&M of Hydropower Resource Database 7.4.2 Organizations and Roles for Data Provision of Draft Final Report in order to achieve sustainable Operation and Maintenance of HRD systems.

The following three divisions shall fulfill their roles and coordinate mutually to achieve the sustainable operation and maintenance of HRD systems. Roles of each division are prescribed as follows.

(1) HOEMD (Hydropower & Ocean Energy Management Division)

- HRD system operation and maintenance
- Update of RE-contracts information
- Supervision on from registration, development until operation of HEP
- Data provision of HEP projects to developers
- Establishment the information desk
- Face to face service to developers
- Facilitation of new potential sites identified by JICA study
- Holding seminars

(2) TSMD (Technical Service Management Division)

- Technical assistance for facilitation of new identified sites and management of RE-contracts information
- Preparing the documents for data provision

Recommended organization of O & M of HRD systems and assigned staff are shown in the following figure. HOEMD shall always update HRD and manage HRD systems by the staff in charge properly.
The Study team strongly request DOE that the O & M organization, staff in charge, coordination with relevant division etc. shall be approved officially.

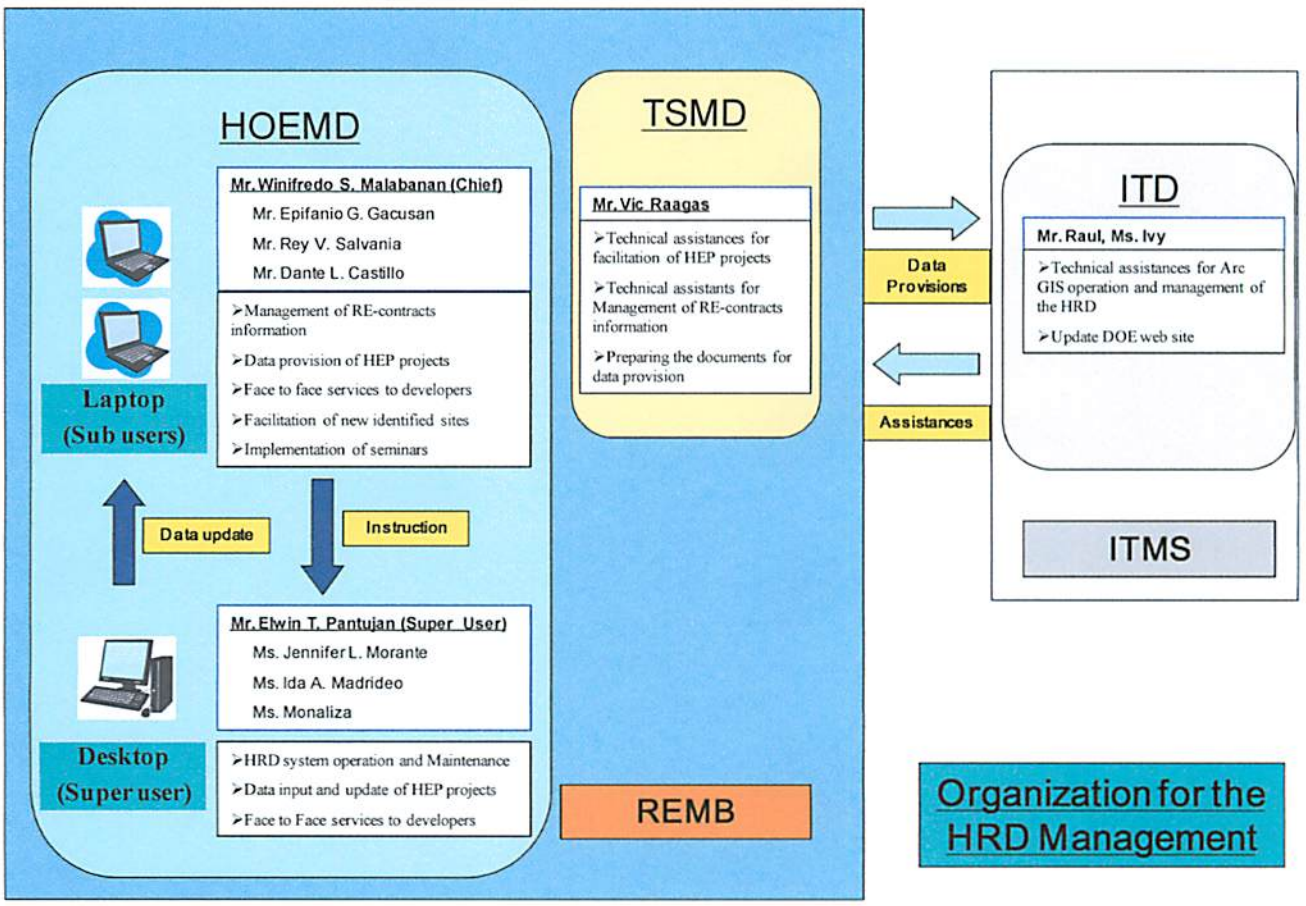



*Fig. 1 Organization for the HRD systems Management*

## 2. Utilization of Hydropower Resource Database (HRD) systems

The JICA study team recommended the following utilization of HRD systems as described in Chapter 8 Exploitation and Facilitation of Hydropower Resource Database of Draft Final Report in order to facilitate promotion of Hydropower development.

In this Study, the following methods are proposed to promote hydropower development by utilizing the database for developers / investors.

- Information provision through the web site
- Establishment of information desk for hydropower development
- Provision of data / information of the relevant potential site by Face-to-face service
- Seminars regarding hydropower development information

Information / data related to hydropower potentials are recommended to be disclosed to the developers on DOE web site and by means of face to face services.
Basic information / data are to be disclosed on the Web site, which can be prepared by HRD systems easily.

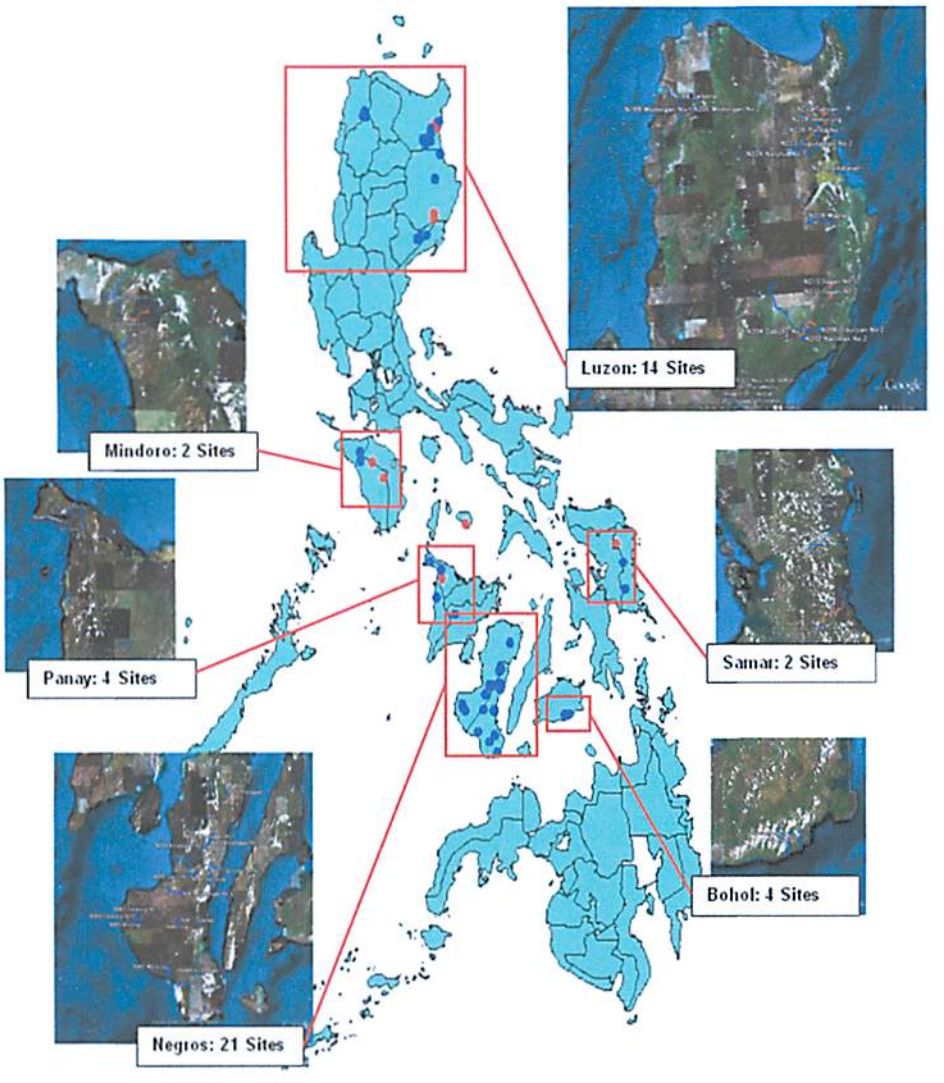
On the other hand, upon requests from developers, the information desk shall provide information / data related to the relevant project to developers. The information desk is to be established in HOEMD.
The HRD systems can provide the related information / data of the relevant project easily and effectively.

***Table 1 Methods for Data Provision for developers***

| Method | Contents |
|---|---|
| 1. Web site | Download available from the DOE web site<br>1) List of Projects (basic parameters)<br>2) Projects Location on River System Map |
| 2. Face-to-Face Service | Provision of detailed information / data according to requests<br>1) Project Information<br>2) Summary evaluation of Project site<br>3) Preliminary estimated construction cost<br>4) Site Reconnaissance Report |

## 3. New hydropower potentials identified in the Study

The JICA study team identified 252 potential sites by Map study and screened 47 sites from economic, environmental and accessibility aspects. As a result, the site reconnaissance was carried out at 47 prioritized sites to verify the results of Map study. (see attachment – 1)
47 verified potential sites are planned to be bided for implementation of Feasibility study by DOE in next year. The data / information of the relevant potential site can be provided easily and effectively by using HRD systems.




| Region | Island | Run-of-River | Reservoir Poundage | Cancelled | Sub Total |
|---|---|---|---|---|---|
| CAR<br>REGION 1<br>REGION 2 | Luzon | 11 | 3 | 4 | 14 |
| REGION 4-B | Mindoro | 2 | 0 | 2 | 2 |
| | Romblon | 0 | 0 | 1 | 0 |
| REGION 6 | Panay | 4 | 0 | 1 | 4 |
| REGION 7 | Negros | 20 | 1 | 0 | 21 |
| | Bohol | 4 | 0 | 0 | 4 |
| REGION 8 | Samar | 2 | 0 | 1 | 2 |
| Sub Total | | 43 | 4 | 9 | Total 47 |

*Fig. 1 47 prioritized hydropower potential sites where the site reconnaissance was conducted*

*Manila,2 December 2011*

*Mr. Jose M. Layug, Jr.*
*Undersecretary*
*Office of the Undersecretary*
*Department of Energy*

*Mr. Yuichi SANO*
*Team Leader*
*The Study Team*

*Mr. Mario C. Marasigan*
*Director, Renewable Energy Management Bureau*
*Department of Energy*

*Mr. Ronnie Sargento, Ph.D*
*Chief Science Research Specialist*
*Hydropower and Ocean Energy Management Division*
*Renewable Energy Management Bureau*
*Department of Energy*

Minutes of Meeting during the 7th Site Investigation
On Transfer of Final Hydropower Resource Database

The Study Project on Resource Inventory on Hydropower Potential in the Philippines
Between Hydropower and Ocean Energy Management Division.
Renewable Energy Management Bureau Department of Energy (DOE) and NEWJEC Inc.

JICA Study team had conducted the 7th Site Invitation on "the Study Project on Resource Inventory on the Hydropower Potential in the Philippines", (the Study) from February 13 to March 7, 2012.

During the 7th site investigation, the JICA study team installed Final-version Hydropower Resource Database (HRD) into 3 PCs and confirmed that HRD systems operate properly by both parties.

Also, JICA Study team submitted and explained Final Operation and Maintenance (O&M) Manual of HRD. Final O&M Manual was revised and modified according to DOE's comments given during the 6th site investigation based on Draft O&M Manual.

*Manila, March 5, 2012*

*Mr. Mario C. Marasigan*
*Director, Renewable Energy Management Bureau*
*Department of Energy*

佐野 裕一

*Yuichi SANO*
*Team Leader*
*The JICA Study Team*

*Mr. Ronnie Sargento, Ph.D*
*Chief. Science Research Specialist*
*Hydropower and Ocean Energy Management Division*
*Renewable Energy Management Bureau*
*Department of Energy*

**Security Policy for Hydropower Resource Database (HRD) System**

The security policy for the HRD system was discussed and agreed to between the DOE and JICA study team are as shown below.

- The HRD system shall be installed in a desktop PC and two laptop PCs provided by JICA in this project until handover. After handover, the DOE will consider the distribution of the HRD system to the parties concerned.
- The HRD-installed PCs shall be connected only to the JICA-REMB WiFi network.
- The operation and maintenance (O & M) of the HRD shall observe the security policy of the DOE.

In addition, the JICA study team recommends to users of the HRD system to observe the security policy shown below.

- The User of the HRD system (hereafter referred as to "the User") must not use the HRD-installed PC (hereafter referred as to "the PC") for private purposes.
- The User must pay attention not to leak information.
- The User must not commit crimes such as illegal access, infringement of copyrights or cheating.
- The User shall agree and sign this security policy.

The security policy shown above shall be agreed and signed by the users when the HRD system is handed over.

# APPENDIX-4

# LIST OF THE SPECIFICATIONS OF 252 SITES

# Appendix-4 List of the Specifications of 252 Sites

| ID | Island | Point | Max Output (MW) | Annual Energy Generation (MWh) | Type | Catchment Area (Km$^2$) | Max Power Discharge (m$^2$/s) | Effective Head (m) | Water Level (m) | | Dam | | | Reservoir | | | Headrace (m) | | Penstock (m) | Tailrace (m) | Capacity | | Construction Cost (MUSD) | Road Extension (m) | Socio Environmental Assessment | | | EIRR (30 Year) | FIRR (30 Year) | Unit Cost /kWh ($) | Site Reconnaissance |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Intake | Tailrace | Type | Height (m) | Crest Length (m) | High Water Level (m) | Total Reservoir Volume (m$^3$) | Effective Volume (m$^3$) | Open Channel | Tunnel | | | River Water (%) | Facility (%) | | | Protected Area | Volcano | Residence | | | | |
| 1 | Bohol | Sampelangon | 0.58 | 3179.1 | Run of River | 17.8 | 1.58 | 47.2 | 125.0 | 70.0 | | 10.0 | 10.0 | | | | 0 | 2000 | 90 | 5 | 47% | 59% | 8.40 | 5500 | | | | -5.5% | -7.5% | 2.47 | |
| 2 | Bohol | Upper Manaba | 0.95 | 4522.8 | Run of River | 22.8 | 1.03 | 117.2 | 245.0 | 119.0 | | 3.0 | 15.0 | | | | 1300 | 0 | 730 | 10 | 42% | 52% | 6.20 | 1335 | | | | 3.8% | 0.7% | 1.27 | Done |
| 3 | Bohol | Balite | 1.30 | 5979.7 | Run of River | 26.8 | 1.25 | 130.1 | 247.0 | 109.0 | | 4.0 | 15.0 | | | | 1500 | 0 | 400 | 10 | 41% | 50% | 6.02 | 1300 | | | | 8.5% | 4.4% | 0.93 | Done |
| 4 | Bohol | Lower Manaba | 0.51 | 2712.2 | Run of River | 67.0 | 2.48 | 26.7 | 111.0 | 79.0 | | 4.0 | 22.0 | | | | 2100 | 0 | 90 | 30 | 48% | 58% | 6.47 | 1400 | | | | -3.8% | -6.0% | 2.20 | Done |
| 5 | Bohol | Odiong | 0.42 | 2053.2 | Run of River | 11.1 | 0.50 | 109.1 | 180.0 | 64.0 | | 3.0 | 15.0 | | | | 0 | 0 | 580 | 15 | 42% | 53% | 3.17 | 270 | | | | 2.1% | -0.6% | 1.43 | Done |
| 6 | Bohol | Alihanan | 0.92 | 5166.5 | Run of River | 13.8 | 1.20 | 97.2 | 180.0 | 75.0 | | 10.0 | 10.0 | | | | 1500 | 0 | 380 | 5 | 48% | 61% | 5.49 | 100 | Aljawan_Cansuhay, Anibongan Water Forest Reserve | | | 7.2% | 3.7% | 0.98 | |
| 7 | Masbate | Manolib | 0.52 | 2610.7 | Run of River | 11.9 | 0.95 | 70.8 | 180.0 | 100.0 | | 10.0 | 33.0 | | | | 3300 | 0 | 280 | 10 | 37% | 54% | 6.88 | 5250 | | | | -5.4% | -7.5% | 2.48 | |
| 8 | Masbate | Banadero | 1.10 | 5522.1 | Run of River | 23.6 | 1.83 | 76.3 | 100.0 | 15.0 | | 10.0 | 27.0 | | | | 3300 | 0 | 130 | 10 | 38% | 54% | 8.12 | 3500 | | | | 2.8% | -0.1% | 1.37 | |
| 9 | Mindoro | Sinambalan No.1 | 3.10 | 22370.5 | Run of River | 58.4 | 4.00 | 96.7 | 165.0 | 60.0 | | 7.0 | 35.0 | | | | 0 | 2150 | 180 | 10 | 64% | 78% | 13.19 | 4700 | | | | 17.9% | 12.3% | 0.55 | Done |
| 10 | Mindoro | Sinambalan No.2 | 4.70 | 20699.0 | Reserovir | 116.2 | 16.87 | 34.1 | 55.0 | 15.0 | Rock Fill | 45.0 | 315.0 | 55.0 | 50647500 | 11776868 | 0 | 0 | 100 | 30 | 39% | 48% | 48.29 | 4917 | | | 1.0 | -3.3% | -5.7% | 2.13 | |
| 11 | Mindoro | Alitangan | 9.70 | 41270.0 | Run of River | 24.8 | 3.79 | 310.8 | 500.0 | 170.0 | | 10.0 | 32.0 | | | | 6819 | 3260 | 780 | 10 | 38% | 46% | 26.49 | 18057 | | | | 18.8% | 11.1% | 0.60 | |
| 12 | Mindoro | Pagbahan No.1 | 12.00 | 53189.4 | Run of River | 44.4 | 6.45 | 224.9 | 468.0 | 229.0 | | 5.0 | 30.0 | | | | 5800 | 0 | 620 | 10 | 39% | 48% | 28.41 | 15000 | | | | 24.6% | 16.2% | 0.50 | Done |
| 13 | Mindoro | Pagbahan No.2 | 19.20 | 84940.9 | Reserovir | 200.2 | 29.07 | 78.9 | 115.0 | 30.0 | Rock Fill | 90.0 | 496.0 | 115.0 | 341640000 | 24264718 | 0 | 0 | 160 | 10 | 39% | 48% | 165.36 | 11875 | | | 1.0 | -0.8% | -3.4% | 1.77 | |
| 14 | Mindoro | Salagan | 8.20 | 37549.7 | Run of River | 66.9 | 9.24 | 107.7 | 200.0 | 85.0 | | 10.0 | 55.0 | | | | 500 | 6050 | 310 | 180 | 40% | 50% | 32.53 | 18000 | | | | 11.2% | 6.5% | 0.81 | |
| 15 | Mindoro | Amnay | 6.00 | 45730.1 | Run of River | 186.2 | 11.57 | 63.5 | 240.0 | 165.0 | | 10.0 | 60.0 | | | | 5540 | 0 | 130 | 10 | 68% | 83% | 28.25 | 21500 | | | | 16.5% | 11.4% | 0.58 | |
| 16 | Mindoro | Ulango | 5.50 | 25317.6 | Run of River | 42.2 | 5.83 | 116.1 | 240.0 | 110.0 | | 10.0 | 33.0 | | | | 4440 | 3000 | 250 | 10 | 40% | 50% | 23.59 | 23500 | | | | 9.9% | 5.5% | 0.88 | |
| 17 | Mindoro | Patrick No.1 | 5.30 | 40050.2 | Run of River | 144.5 | 9.25 | 70.9 | 300.0 | 220.0 | | 10.0 | 75.0 | | | | 0 | 5970 | 170 | 10 | 67% | 82% | 36.58 | 29700 | Mts. Iglit-Baco Natural Park | | | 9.0% | 5.6% | 0.86 | |
| 18 | Mindoro | Patrick No.2 | 24.70 | 113587.3 | Reserovir | 188.5 | 26.06 | 112.9 | 220.0 | 100.0 | Rock Fill | 110.0 | 280.0 | 220.0 | 234410000 | 15960323 | 0 | 0 | 230 | 700 | 40% | 50% | 158.50 | 26000 | | | | 3.6% | 0.5% | 1.28 | |
| 19 | Mindoro | Patrick No.3 | 5.70 | 43245.2 | Run of River | 252.4 | 15.68 | 44.4 | 95.0 | 40.0 | | 10.0 | 78.0 | | 0 | | 4700 | 2430 | 130 | 10 | 68% | 82% | 37.48 | 23000 | | | | 9.8% | 6.3% | 0.81 | |
| 20 | Mindoro | Mongpong No.1 | 2.30 | 10483.5 | Run of River | 39.0 | 5.58 | 52.5 | 240.0 | 180.0 | | 10.0 | 45.0 | | | | 1542 | 0 | 130 | 10 | 39% | 49% | 18.54 | 49000 | | | | 0.5% | -2.2% | 1.77 | |
| 21 | Mindoro | Mongpong No.2 | 2.80 | 12953.5 | Run of River | 49.2 | 6.80 | 51.7 | 180.0 | 120.0 | | 10.0 | 101.0 | | | | 2400 | 0 | 110 | 10 | 40% | 50% | 21.79 | 51500 | | | | 1.1% | -1.6% | 1.67 | |
| 22 | Mindoro | Balangan No.1 | 5.90 | 26290.8 | Run of River | 24.0 | 3.48 | 209.3 | 460.0 | 240.0 | | 10.0 | 42.0 | | | | 3400 | 0 | 430 | 10 | 39% | 48% | 22.08 | 47500 | Mts. Iglit-Baco Natural Park | | | 12.0% | 6.8% | 0.83 | |
| 23 | Mindoro | Balangan No.2 | 3.90 | 18402.4 | Run of River | 67.9 | 8.89 | 53.8 | 240.0 | 180.0 | | 10.0 | 45.0 | | | | 3100 | 0 | 220 | 10 | 42% | 51% | 23.42 | 47500 | | | | 4.8% | 1.6% | 1.25 | |
| 24 | Mindoro | Balangan No.3 | 6.30 | 30087.9 | Run of River | 86.3 | 11.30 | 68.5 | 180.0 | 100.0 | | 10.0 | 69.0 | | | | 4840 | 0 | 330 | 10 | 42% | 52% | 31.44 | 42500 | | | | 7.8% | 4.2% | 1.00 | |
| 25 | Mindoro | Anahawin | 2.70 | 12327.5 | Run of River | 35.8 | 4.95 | 67.7 | 160.0 | 85.0 | | 5.0 | 50.0 | | | | 4035 | 0 | 120 | 10 | 40% | 50% | 15.91 | 43500 | Mts. Iglit-Baco Natural Park | | | 4.7% | 1.4% | 1.30 | |
| 26 | Mindoro | Lumintoa No.1 | 5.40 | 40619.2 | Run of River | 80.8 | 5.18 | 128.6 | 440.0 | 300.0 | | 10.0 | 43.0 | | | | 0 | 5040 | 220 | 10 | 67% | 82% | 28.99 | 35600 | Mts. Iglit-Baco Natural Park | | | 13.4% | 9.1% | 0.68 | |
| 27 | Mindoro | Lumintoa No.2 | 7.60 | 58224.2 | Run of River | 164.7 | 10.23 | 91.0 | 300.0 | 200.0 | | 10.0 | 33.0 | | | | 2560 | 3005 | 260 | 10 | 68% | 83% | 36.56 | 33500 | Mts. Iglit-Baco Natural Park | | | 16.1% | 11.2% | 0.59 | |
| 28 | Mindoro | Lumintoa No.3 | 6.70 | 51216.9 | Run of River | 210.2 | 13.06 | 62.9 | 200.0 | 125.0 | | 10.0 | 95.0 | | | | 0 | 5700 | 220 | 150 | 68% | 83% | 45.91 | 33500 | Mts. Iglit-Baco Natural Park | | | 9.3% | 5.9% | 0.84 | |
| 29 | Mindoro | Balanaan No.1 | 6.30 | 28960.3 | Run of River | 42.8 | 5.92 | 130.5 | 450.0 | 310.0 | | 10.0 | 56.0 | | | | 0 | 3020 | 260 | 10 | 40% | 50% | 23.15 | 18000 | Mts. Iglit-Baco Natural Park | | | 12.8% | 7.7% | 0.75 | |
| 30 | Mindoro | Balanaan No.2 | 5.10 | 37688.8 | Run of River | 79.5 | 5.26 | 120.0 | 310.0 | 180.0 | | 10.0 | 33.0 | | | | 0 | 6454 | 460 | 10 | 66% | 80% | 31.52 | 23000 | | | | 10.5% | 6.8% | 0.78 | |
| 31 | Mindoro | Bugsanga No.1 | 3.30 | 21791.8 | Run of River | 73.7 | 5.67 | 71.5 | 240.0 | 160.0 | | 10.0 | 28.0 | | | | 0 | 2400 | 160 | 10 | 60% | 72% | 19.53 | 25000 | | | | 9.5% | 6.0% | 0.86 | |
| 32 | Mindoro | Bugsanga No.2 | 12.30 | 58608.4 | Reserovir | 257.2 | 33.65 | 44.1 | 155.0 | 105.0 | Rock Fill | 55.0 | 317.0 | 155.0 | 131752500 | 27139093 | 0 | 0 | 90 | 15 | 42% | 52% | 79.75 | 27500 | | | | 3.9% | 0.8% | 1.25 | |
| 33 | Mindoro | Cagaray | 15.20 | 72591.5 | Reserovir | 236.9 | 31.00 | 59.1 | 135.0 | 70.0 | Rock Fill | 70.0 | 345.0 | 135.0 | 405335000 | 33080008 | 0 | 0 | 120 | 15 | 42% | 52% | 104.49 | 27000 | | | | 3.1% | 0.2% | 1.32 | |
| 34 | Mindoro | Catuiran No.1 | 8.10 | 61387.8 | Run of River | 104.0 | 6.46 | 151.8 | 460.0 | 300.0 | | 10.0 | 33.0 | | | | 2260 | 2910 | 280 | 10 | 68% | 82% | 27.40 | 11466 | | | | 25.9% | 17.8% | 0.41 | Canceled |
| 35 | Mindoro | Tinangi-on | 10.30 | 45814.8 | Run of River | 41.7 | 6.06 | 206.8 | 540.0 | 320.0 | | 10.0 | 33.0 | | | | 4653 | 0 | 700 | 10 | 39% | 48% | 26.00 | 13000 | Mts. Iglit-Baco Natural Park | | | 22.3% | 14.8% | 0.53 | Canceled |
| 36 | Mindoro | Ibato | 5.50 | 25061.5 | Run of River | 54.0 | 7.46 | 89.8 | 340.0 | 240.0 | | 10.0 | 33.0 | | | | 3800 | 0 | 240 | 10 | 40% | 49% | 20.93 | 19000 | | | | 11.9% | 7.5% | 0.79 | |
| 37 | Mindoro | Aglubang No.1 | 2.80 | 18504.0 | Run of River | 90.8 | 6.99 | 49.4 | 300.0 | 240.0 | | 10.0 | 33.0 | | | | 4600 | 0 | 130 | 10 | 60% | 72% | 17.94 | 13500 | | | | 8.2% | 5.0% | 0.91 | |
| 38 | Mindoro | Aglubang No.2 | 4.00 | 30802.2 | Run of River | 182.2 | 11.32 | 44.1 | 240.0 | 190.0 | | 10.0 | 82.0 | | | | 5630 | 0 | 120 | 10 | 68% | 84% | 21.56 | 12000 | Mts. Iglit-Baco Natural Park | | | 13.8% | 9.4% | 0.65 | |
| 39 | Mindoro | Pula | 1.00 | 6830.0 | Run of River | 55.9 | 4.13 | 30.7 | 140.0 | 100.0 | | 10.0 | 63.0 | | | | 0 | 3351 | 120 | 10 | 62% | 74% | 14.54 | 8000 | | | | -2.5% | -4.5% | 1.98 | |
| 40 | Mindoro | Balete | 1.90 | 10101.8 | Run of River | 42.9 | 4.82 | 50.6 | 160.0 | 100.0 | | 10.0 | 40.0 | | | | 0 | 3233 | 210 | 10 | 47% | 58% | 16.52 | 7500 | | | | 1.3% | -1.2% | 1.52 | |
| 41 | Mindoro | Bongabong No.1 | 8.20 | 54488.2 | Run of River | 63.3 | 4.87 | 204.2 | 560.0 | 340.0 | | 10.0 | 33.0 | | | | 0 | 8700 | 370 | 10 | 60% | 72% | 36.64 | 21000 | Mts. Iglit-Baco Natural Park | | | 15.1% | 10.3% | 0.63 | |
| 42 | Mindoro | Bongabong No.2 | 9.20 | 71886.4 | Run of River | 166.2 | 9.75 | 114.9 | 340.0 | 210.0 | | 10.0 | 50.0 | | | | 0 | 8050 | 270 | 500 | 70% | 85% | 46.82 | 11500 | Mts. Iglit-Baco Natural Park | | | 15.2% | 10.6% | 0.60 | |
| 43 | Mindoro | Siange | 1.20 | 8541.9 | Run of River | 60.6 | 4.20 | 36.1 | 180.0 | 135.0 | | 10.0 | 73.0 | | | | 3000 | 0 | 110 | 10 | 64% | 77% | 11.36 | 7500 | | | | 3.6% | 1.1% | 1.24 | |
| 44 | Mindoro | Wasig | 1.90 | 12733.3 | Pondage | 61.7 | 4.74 | 50.5 | 115.0 | 55.0 | Rock Fill | 50.0 | 326.0 | 115.0 | 37875000 | 5870404 | 0 | 2160 | 280 | 10 | 60% | 73% | 52.00 | 2000 | | | 1.0 | - | - | 3.71 | |
| 45 | Negros | Sicaba No.1 | 1.00 | 7205.6 | Run of River | 13.5 | 1.18 | 112.4 | 500.0 | 380.0 | | 10.0 | 33.0 | | | | 1692 | 0 | 280 | 100 | 60% | 78% | 6.67 | 400 | Northern Negros Natural Park | | | 8.9% | 5.5% | 0.85 | |
| 46 | Negros | Sicaba No.2 | 0.95 | 6546.4 | Run of River | 15.2 | 1.32 | 91.3 | 380.0 | 280.0 | | 10.0 | 32.0 | | | | 2267 | 0 | 260 | 10 | 60% | 75% | 6.64 | 1600 | Northern Negros Natural Park | | | 7.5% | 4.3% | 0.94 | |
| 47 | Negros | Bago No.1 | 1.70 | 12184.5 | Run of River | 79.2 | 6.64 | 32.7 | 480.0 | 440.0 | | 10.0 | 33.0 | | | | 0 | 4636 | 60 | 10 | 62% | 78% | 23.34 | 20500 | Northern Negros Natural Park | Kanloan | | -1.1% | -3.2% | 1.80 | |
| 48 | Negros | Bago No.2 | 13.50 | 67224.1 | Run of River | 257.4 | 35.57 | 45.8 | 325.0 | 270.0 | Rock Fill | 60.0 | 330.0 | 325.0 | 114000000 | 31983653 | 0 | 3200 | 150 | 10 | 44% | 54% | 110.02 | 13000 | | Kanloan | 1.0 | 1.3% | -1.0% | 1.49 | |
| 49 | Negros | Lum atang | 3.20 | 13947.8 | Run of River | 19.2 | 3.27 | 121.0 | 400.0 | 270.0 | | 10.0 | 55.0 | | | | 2640 | 0 | 220 | 10 | 38% | 47% | 12.47 | 9000 | | kanloan | | 10.8% | 6.7% | 0.84 | |
| 50 | Negros | Bago No.3 | 15.00 | 105818.0 | Reserovir | 363.1 | 30.45 | 59.1 | 265.0 | 200.0 | Concrete | 70.0 | 185.0 | 265.0 | 57936667 | 34035593 | 0 | 0 | 110 | 10 | 62% | 77% | 78.41 | 7500 | Mt. Kanlaon Natural Park | Kanloan | 1.0 | 12.8% | 8.6% | 0.68 | |
| 51 | Negros | Mangorggong | 1.10 | 5233.7 | Run of River | 10.7 | 1.83 | 73.7 | 440.0 | 360.0 | | 10.0 | 35.0 | | | | 530 | 0 | 220 | 10 | 38% | 52% | 6.39 | 3000 | | Kanloan | | 5.4% | 2.1% | 1.14 | |
| 52 | Negros | Binalbagan No.1 | 13.00 | 52914.0 | Pondage | 216.9 | 20.32 | 76.9 | 295.0 | 210.0 | Rock Fill | 75.0 | 526.0 | 295.0 | 228900000 | 31285612 | 0 | 1948 | 180 | 10 | 35% | 44% | 135.68 | 1740 | | Kanloan | | -4.6% | -7.1% | 2.33 | Done |
| 53 | Negros | Binalbagan No.2 | 3.60 | 27346.2 | Run of River | 229.5 | 8.21 | 54.2 | 196.0 | 133.0 | | 5.0 | 30.0 | | | | 0 | 2788 | 130 | 10 | 71% | 82% | 19.62 | 3370 | | Kanloan | 1.0 | 13.3% | 9.0% | 0.66 | Done |
| 54 | Negros | Binalbagan No.3 | 1.40 | 10346.6 | Run of River | 238.7 | 8.54 | 20.2 | 165.0 | 136.0 | | 5.0 | 85.0 | | | | 0 | 2960 | 110 | 10 | 71% | 80% | 18.19 | 1980 | | Kanloan | | 0.0% | -2.1% | 1.61 | Done |
| 55 | Negros | Sacop | 2.30 | 10828.1 | Run of River | 21.7 | 3.04 | 92.6 | 200.0 | 100.0 | | 10.0 | 27.0 | | | | 3721 | 0 | 150 | 10 | 29% | 51% | 11.77 | 650 | | Kanloan | | 7.2% | 3.5% | 1.00 | |
| 56 | Negros | Lag-il No.1 | 1.30 | 8802.7 | Run of River | 35.7 | 1.67 | 99.8 | 361.0 | 253.0 | | 5.0 | 55.0 | | | | 1979 | 0 | 190 | 10 | 60% | 73% | 7.11 | 3340 | | | | 11.3% | 7.3% | 0.75 | Done |
| 57 | Negros | Lag-il No.2 | 2.30 | 15513.1 | Run of River | 64.8 | 3.03 | 95.6 | 276.0 | 174.0 | | 5.0 | 35.0 | | | | 6000 | 0 | 240 | 10 | 60% | 73% | 11.33 | 4330 | | | | 13.3% | 8.8% | 0.68 | Done |
| 58 | Negros | Pangiplan | 1.40 | 8969.2 | Run of River | 40.5 | 1.92 | 89.2 | 273.0 | 174.0 | | 5.0 | 35.0 | | | | 3448 | 0 | 250 | 10 | 60% | 69% | 8.40 | 2182 | | | | 8.8% | 5.3% | 0.87 | Done |
| 59 | Negros | Suay | 0.77 | 5330.0 | Run of River | 35.2 | 3.07 | 32.2 | 100.0 | 60.0 | | 10.0 | 39.0 | | | | 2000 | 0 | 80 | 10 | 60% | 75% | 7.56 | 4500 | | | | 2.8% | 0.3% | 1.33 | |
| 60 | Negros | Hilabangan No.1 | 3.40 | 24102.8 | Run of River | 99.0 | 8.30 | 50.9 | 340.0 | 280.0 | | 10.0 | 60.0 | | | | 0 | 3070 | 140 | 10 | 62% | 77% | 23.50 | 18500 | | | | 8.0% | 4.8% | 0.92 | |
| 61 | Negros | Hilabangan No.3 | 3.60 | 28628.3 | Run of River | 390.9 | 12.87 | 35.1 | 138.0 | 97.0 | | 5.0 | 67.0 | | | | 1280 | 2200 | 110 | 10 | 74% | 86% | 21.61 | 3370 | Ilog Hilabangan Water Forest | | 1.0 | 12.2% | 8.3% | 0.69 | Done |
| 62 | Negros | Ilog | 21.60 | 144358.9 | Reserovir | 887.3 | 41.53 | 62.0 | 162.0 | 94.0 | Rock Fill | 70.0 | 240.0 | 115.0 | 699351667 | 188511303 | 0 | 0 | 130 | 50 | 60% | 72% | 105.20 | 1330 | | | | 13.3% | 9.0% | 0.66 | Done |
| 63 | Negros | Calatong No.1 | 1.30 | 8862.0 | Run of River | 31.4 | 1.47 | 114.0 | 318.0 | 196.0 | | 4.0 | 30.0 | | | | 1600 | 0 | 240 | 10 | 60% | 74% | 6.23 | 3300 | | | | 14.1% | 9.3% | 0.66 | Done |
| 64 | Negros | Calatong No.2 | 1.70 | 11474.1 | Run of River | 46.7 | 2.21 | 98.5 | 180.0 | 71.0 | | 4.0 | 35.0 | | | | 4050 | 0 | 270 | 10 | 60% | 73% | 9.70 | 3150 | | | | 10.5% | 6.7% | 0.78 | Done |
| 65 | Negros | Binulug | 4.50 | 24092.3 | Run of River | 51.7 | 3.50 | 159.8 | 263.0 | 93.0 | | 3.0 | 35.0 | | | | 4050 | 0 | 320 | 10 | 46% | 58% | 14.07 | 4360 | | | | 19.9% | 13.2% | 0.54 | Done |
| 66 | Negros | Tyabanan | 10.60 | 41739.6 | Reserovir | 105.8 | 14.78 | 87.1 | 115.0 | 20.0 | Rock Fill | 80.0 | 348.0 | 115.0 | 119200000 | 9850541 | 0 | 1650 | 200 | 10 | 29% | 43% | 108.53 | 5000 | | | 1.0 | -4.8% | -7.3% | 2.37 | |
| 67 | Negros | Pagatban | 13.90 | 98271.2 | Reserovir | 343.0 | 24.20 | 69.0 | 95.0 | 20.0 | Rock Fill | 80.0 | 296.0 | 95.0 | 391600000 | 53886720 | 0 | 0 | 140 | 50 | 50% | 77% | 102.39 | 2600 | | | 1.0 | 7.0% | 4.0% | 0.95 | |
| 68 | Negros | Bayawan | 9.30 | 66184.7 | Reserovir | 272.5 | 19.23 | 59.0 | 95.0 | 30.0 | Rock Fill | 70.0 | 318.0 | 95.0 | 458010000 | 47366794 | 0 | 0 | 120 | 50 | 50% | 77% | 84.29 | 2250 | | | 1.0 | 4.2% | 1.6% | 1.16 | |
| 69 | Negros | Mona-ol | 1.90 | 14064.8 | Run of River | 31.3 | 2.26 | 103.8 | 175.0 | 63.0 | | 3.0 | 42.0 | | | | 1600 | 0 | 320 | 10 | 59% | 80% | 7.72 | 3680 | | | | 19.5% | 13.6% | 0.51 | Done |
| 70 | Negros | Sicopong No.2 | 6.40 | 45388.9 | Reserovir | 301.4 | 21.27 | 36.9 | 60.0 | 15.0 | Rock Fill | 45.0 | 454.0 | 60.0 | 350190000 | 50637223 | 2300 | 0 | 80 | 50 | 50% | 77% | 68.31 | 5000 | | | 1.0 | 2.0% | -0.3% | 1.37 | |
| 71 | Negros | Cauitan | 3.30 | 25109.4 | Run of River | 48.7 | 3.52 | 117.8 | 226.0 | 96.0 | | 5.0 | 17.0 | | | | 5774 | 0 | 260 | 30 | 59% | 83% | 14.96 | 6800 | | | | 17.4% | 12.1% | 0.55 | Done |
| 72 | Negros | Canauay | 1.40 | 10327.8 | Run of River | 33.1 | 2.39 | 72.5 | 268.0 | 187.0 | | 3.0 | 45.0 | | | | 2600 | 0 | 130 | 10 | 59% | 80% | 7.21 | 1297 | | | | 13.9% | 9.5% | 0.65 | Done |
| 73 | Negros | Guinsuan | 0.86 | 6108.1 | Run of River | 17.0 | 1.20 | 92.0 | 400.0 | 300.0 | | 10.0 | 37.0 | | | | 1752 | 0 | 220 | 10 | 50% | 77% | 6.57 | 7500 | | | | 6.6% | 3.6% | 1.03 | |
| 74 | Negros | Manara Diotay | 0.77 | 5321.3 | Run of River | 18.6 | 1.63 | 60.7 | 300.0 | 230.0 | | 10.0 | 33.0 | | | | 2500 | 0 | 410 | 10 | 60% | 75% | 8.19 | 4000 | Northern Negros Natural Park | | | 1.8% | -0.6% | 1.43 | |
| 75 | Negros | Himagaan | 0.19 | 1161.2 | Run of River | 64.5 | 4.10 | 6.3 | 290.0 | 275.0 | | 3.0 | 60.0 | | | | 1250 | 0 | 840 | 10 | 48% | 66% | 11.49 | 600 | Northern Negros Natural Park | | | - | - | 9.02 | Done |
| 76 | Negros | Guihoingan | 0.94 | 6645.2 | Run of River | 18.5 | 1.30 | 91.9 | 420.0 | 320.0 | | 10.0 | 47.0 | | | | 1000 | 0 | 490 | 10 | 50% | 77% | 7.06 | 5500 | | Kanloan | | 6.8% | 3.7% | 1.00 | |
| 77 | Negros | Guinobe-an No.1 | 6.70 | 37580.2 | Run of River | 71.3 | 4.27 | 192.3 | 321.0 | 117.0 | | 3.5 | 10.0 | | | | 0 | 4800 | 330 | 10 | 52% | 61% | 21.59 | 4260 | | | | 20.0% | 12.7% | 0.53 | Done |
| 78 | Negros | Pacu-an | 8.30 | 41574.5 | Run of River | 103.2 | 7.62 | 131.8 | 266.0 | 125.0 | | 4.0 | 45.0 | | | | 0 | 2600 | 270 | 10 | 45% | 54% | 22.28 | 4711 | | | | 23.0% | 15.7% | 0.49 | Done |
| 79 | Negros | Guinoba-an No.2 | 2.90 | 21969.4 | Run of River | 183.1 | 6.71 | 54.2 | 117.0 | 54.0 | | 4.0 | 35.0 | | | | 0 | 2923 | 100 | 10 | 68% | 82% | 17.03 | 3571 | | | | 11.8% | 7.9% | 0.71 | Done |

# Appendix-4 List of the Specifications of 252 Sites

| ID | Island | Point | Max Output (MW) | Annual Energy Generation (MWh) | Type | Catchment Area (Km$^2$) | Max Power Discharge (m$^2$/s) | Effective Head (m) | Water Level (m) | | Dam | | | Reservoir | | | Headrace (m) | | Penstock (m) | Tailrace (m) | Capacity | | Construction Cost (MUSD) | Road Extension (m) | Socio Environmental Assessment | | | EIRR (30 Year) | FIRR (30 Year) | Unit Cost /kWh ($) | Site Reconnaissance |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Intake | Tailrace | Type | Height (m) | Crest Length (m) | High Water Level (m) | Total Reservoir Volume (m$^3$) | Effective Volume (m$^3$) | Open Channel | Tunnel | | | River Water (%) | Facility (%) | | | Protected Area | Volcano | Residence | | | | |
| 80 | Negros | San Jose | 1.20 | 6113.3 | Run of River | 28.5 | 2.08 | 73.4 | 204.0 | 123.0 | | 2.5 | 22.0 | | | | 1500 | 0 | 170 | 10 | 45% | 55% | 6.66 | 4413 | | | | 7.0% | 3.9% | 1.03 | Done |
| 81 | Negros | Talaptap | 1.20 | 9362.7 | Run of River | 82.0 | 2.40 | 65.9 | 199.0 | 124.0 | | 4.0 | 35.0 | | | | 3000 | 0 | 170 | 10 | 61% | 85% | 8.19 | 3670 | | | | 9.7% | 6.2% | 0.81 | Done |
| 82 | Negros | Kandabong | 2.10 | 9998.8 | Run of River | 29.0 | 4.05 | 64.1 | 140.0 | 70.0 | | 10.0 | 33.0 | | | | 4300 | 0 | 170 | 10 | 29% | 52% | 10.98 | 580 | | | | 7.0% | 3.3% | 1.01 | |
| 83 | Negros | Tanjoy | 1.80 | 8675.1 | Run of River | 30.7 | 4.29 | 52.5 | 220.0 | 160.0 | | 10.0 | 35.0 | | | | 1894 | 0 | 180 | 30 | 29% | 52% | 10.80 | 4000 | | | | 5.1% | 1.8% | 1.16 | |
| 84 | Negros | Hinotongan | 1.70 | 9475.0 | Run of River | 36.0 | 3.85 | 54.5 | 220.0 | 158.0 | | 5.0 | 35.0 | | | | 1890 | 0 | 180 | 50 | 47% | 60% | 9.15 | 0 | | | | 8.7% | 4.9% | 0.89 | Done |
| 85 | Negros | Inalacan | 2.40 | 11622.2 | Run of River | 41.5 | 5.80 | 52.0 | 120.0 | 60.0 | | 10.0 | 56.0 | | | | 2300 | 0 | 190 | 10 | 29% | 53% | 13.73 | 4000 | | | | 5.9% | 2.5% | 1.09 | |
| 86 | Negros | Apolong | 1.70 | 8409.4 | Run of River | 24.6 | 3.44 | 63.5 | 200.0 | 130.0 | | 10.0 | 33.0 | | | | 2000 | 0 | 460 | 50 | 29% | 54% | 9.96 | 750 | | | | 5.8% | 2.4% | 1.09 | |
| 87 | Samar | Bugtasan | 2.10 | 8779.7 | Run of River | 45.3 | 5.59 | 47.1 | 100.0 | 42.0 | | 22.0 | 65.0 | | | | 4870 | 0 | 120 | 100 | 43% | 45% | 18.33 | 8000 | | | | -1.7% | -4.2% | 1.94 | |
| 88 | Samar | Mauo No.2 | 1.70 | 10216.8 | Run of River | 111.6 | 7.11 | 30.5 | 80.0 | 40.0 | | 10.0 | 56.0 | | | | 0 | 3318 | 180 | 100 | 58% | 65% | 18.61 | 1250 | | | | -0.3% | -2.6% | 1.66 | |
| 89 | Samar | Palanit No.1 | 1.40 | 4830.3 | Run of River | 9.4 | 1.75 | 103.8 | 190.0 | 80.0 | | 10.0 | 29.0 | | | | 550 | 0 | 180 | 50 | 35% | 37% | 5.96 | 1000 | | | | 6.1% | 2.1% | 1.14 | |
| 90 | Samar | Palanit No.2 | 0.28 | 1404.5 | Run of River | 11.1 | 1.08 | 34.0 | 80.0 | 40.0 | | 10.0 | 27.0 | | | | 350 | 0 | 210 | 30 | 48% | 54% | 4.14 | 1500 | | | | -7.5% | -9.6% | 2.74 | |
| 91 | Samar | Caglanipan | 1.20 | 3923.8 | Run of River | 10.7 | 1.99 | 74.0 | 100.0 | 20.0 | | 10.0 | 29.0 | | | | 2850 | 0 | 290 | 30 | 35% | 35% | 7.03 | 400 | | | | 0.8% | -2.2% | 1.65 | |
| 92 | Samar | Malaga | 1.30 | 4470.6 | Run of River | 11.5 | 2.15 | 78.0 | 100.0 | 15.0 | | 10.0 | 35.0 | | | | 1600 | 0 | 130 | 10 | 35% | 37% | 6.99 | 450 | | | | 2.6% | -0.8% | 1.44 | |
| 93 | Samar | Dawol | 0.14 | 604.5 | Run of River | 9.0 | 1.17 | 16.1 | 40.0 | 18.0 | | 10.0 | 66.0 | | | | 670 | 0 | 50 | 10 | 42% | 47% | 4.11 | 800 | | | | - | - | 6.26 | |
| 94 | Samar | Sigo | 0.74 | 2536.1 | Run of River | 8.0 | 1.49 | 64.0 | 125.0 | 55.0 | | 10.0 | 27.0 | | | | 300 | 0 | 210 | 30 | 35% | 37% | 4.95 | 750 | Calbayog-Pan-As Hayiban Protected Landscape | | | -0.4% | -3.4% | 1.81 | |
| 95 | Samar | Matuguinao | 0.44 | 2209.4 | Run of River | 17.8 | 1.72 | 33.5 | 100.0 | 60.0 | | 10.0 | 31.0 | | | | 1300 | 0 | 60 | 10 | 48% | 54% | 5.81 | 200 | | | | -5.3% | -7.5% | 2.41 | |
| 96 | Samar | Blanca | 2.40 | 13076.7 | Run of River | 132.7 | 10.19 | 29.9 | 60.0 | 20.0 | | 10.0 | 133.0 | | | | 4250 | 0 | 80 | 50 | 53% | 59% | 19.89 | 6750 | Samar Island Natural Park | | 1.0 | 2.2% | -0.5% | 1.40 | |
| 97 | Samar | Malauog | 0.93 | 3163.1 | Run of River | 8.7 | 1.62 | 73.3 | 100.0 | 20.0 | | 10.0 | 24.0 | | | | 1110 | 0 | 180 | 10 | 35% | 37% | 5.72 | 1580 | | | | 0.6% | -2.5% | 1.68 | |
| 98 | Samar | Sohoton | 7.40 | 30838.0 | Run of River | 44.5 | 5.49 | 164.1 | 240.0 | 65.0 | | 10.0 | 40.0 | | | | 0 | 4025 | 340 | 30 | 43% | 45% | 25.29 | 17000 | Samar Island Natural Park | | | 12.7% | 7.2% | 0.77 | |
| 99 | Samar | Legaspi | 1.30 | 5366.8 | Run of River | 18.7 | 2.30 | 70.6 | 100.0 | 18.0 | | 10.0 | 47.0 | | | | 4800 | 0 | 330 | 10 | 43% | 45% | 11.22 | 1250 | | | | -1.7% | -4.2% | 1.92 | |
| 100 | Samar | Balangiga | 2.10 | 8670.2 | Run of River | 25.3 | 3.12 | 83.3 | 160.0 | 70.0 | | 10.0 | 33.0 | | | | 2800 | 0 | 340 | 10 | 43% | 45% | 11.14 | 11000 | Samar Island Natural Park | | | 4.9% | 1.5% | 1.22 | |
| 101 | Samar | Gasdo | 1.20 | 4105.7 | Run of River | 9.9 | 1.85 | 83.3 | 200.0 | 110.0 | | 10.0 | 27.0 | | | | 1100 | 0 | 170 | 10 | 35% | 37% | 6.35 | 2350 | | | | 2.8% | -0.7% | 1.44 | |
| 102 | Samar | Capoto-on | 2.40 | 10912.2 | Run of River | 27.4 | 5.54 | 54.9 | 100.0 | 38.0 | | 10.0 | 49.0 | | | | 0 | 930 | 200 | 10 | 45% | 49% | 13.22 | 9000 | Samar Island Natural Park | | | 5.7% | 2.2% | 1.14 | |
| 103 | Samar | Dolores No.1 | 1.90 | 8562.4 | Run of River | 39.7 | 8.03 | 29.9 | 180.0 | 140.0 | | 10.0 | 35.0 | | | | 4340 | 0 | 70 | 10 | 45% | 49% | 16.58 | 3800 | Samar Island Natural Park | | | -0.7% | -3.3% | 1.78 | |
| 104 | Samar | Dolores No.2 | 13.10 | 54194.8 | Reserovir | 139.1 | 32.11 | 49.2 | 135.0 | 80.0 | Rock Fill | 60.0 | 226.0 | 135.0 | 215520000 | 27187224 | 0 | 0 | 90 | 30 | 42% | 45% | 72.95 | 12000 | Samar Island Natural Park | | | 4.3% | 0.9% | 1.23 | |
| 105 | Samar | Dolores No.3 | 12.00 | 50994.5 | Run of River | 24.8 | 6.91 | 209.9 | 360.0 | 140.0 | | 10.0 | 36.0 | | | | 1920 | 0 | 610 | 10 | 38% | 46% | 24.82 | 13500 | Samar Island Natural Park | | | 29.1% | 18.1% | 0.45 | Canceled |
| 106 | Samar | Dolores No.4 | 3.00 | 12324.9 | Run of River | 31.6 | 7.60 | 49.9 | 140.0 | 80.0 | | 10.0 | 57.0 | | | | 4038 | 0 | 170 | 10 | 40% | 45% | 19.55 | 14000 | Samar Island Natural Park | | | 2.1% | -1.0% | 1.49 | |
| 107 | Samar | Dolores No.5 | 7.40 | 47930.7 | Run of River | 218.3 | 18.93 | 47.6 | 80.0 | 25.0 | | 10.0 | 79.0 | | | | 1550 | 0 | 90 | 10 | 68% | 70% | 28.30 | 16500 | Samar Island Natural Park | | | 18.3% | 12.2% | 0.55 | |
| 108 | Samar | Gicontol No.1 | 4.90 | 15682.8 | Run of River | 12.5 | 4.40 | 138.5 | 320.0 | 175.0 | | 10.0 | 49.0 | | | | 2880 | 0 | 260 | 10 | 32% | 35% | 15.53 | 17000 | Samar Island Natural Park | | | 10.2% | 4.9% | 0.94 | |
| 109 | Samar | Gicontol No.2 | 4.90 | 17527.9 | Run of River | 23.9 | 6.97 | 86.4 | 175.0 | 80.0 | | 10.0 | 39.0 | | | | 2590 | 0 | 140 | 10 | 36% | 39% | 18.24 | 19000 | Samar Island Natural Park | | | 8.7% | 4.1% | 0.99 | |
| 110 | Samar | Tagaoyan | 0.28 | 1420.4 | Run of River | 20.0 | 1.94 | 19.1 | 100.0 | 75.0 | | 10.0 | 41.0 | | | | 708 | 0 | 50 | 10 | 48% | 55% | 5.52 | 3100 | Samar Island Natural Park | | | - | - | 3.63 | |
| 111 | Samar | Candacan | 8.50 | 17623.3 | Pondage | 109.1 | 35.52 | 29.2 | 100.0 | 65.0 | Rock Fill | 35.0 | 400.0 | 100.0 | 51940000 | 15990924 | 0 | 0 | 70 | 30 | 26% | 22% | 56.03 | 386 | | | 1.0 | -7.3% | -11.3% | 2.89 | |
| 112 | Samar | Ulot | 9.80 | 62651.9 | Pondage | 385.4 | 34.77 | 34.2 | 60.0 | 20.0 | Rock Fill | 40.0 | 178.0 | 60.0 | 105040000 | 96458175 | 0 | 0 | 70 | 30 | 67% | 69% | 47.41 | 4000 | Samar Island Natural Park | | 1.0 | 12.7% | 8.2% | 0.69 | |
| 113 | Samar | Balagon | 13.90 | 57014.8 | Pondage | 132.2 | 30.84 | 54.1 | 100.0 | 40.0 | Rock Fill | 60.0 | 208.0 | 100.0 | 153270000 | 22630218 | 0 | 0 | 100 | 30 | 41% | 44% | 69.72 | 9000 | Samar Island Natural Park | | | 5.7% | 2.1% | 1.12 | |
| 114 | Samar | Tubig | 20.20 | 101920.9 | Run of River | 126.9 | 27.39 | 87.9 | 120.0 | 19.0 | | 10.0 | 93.0 | | | | 6600 | 0 | 260 | 10 | 46% | 55% | 29.82 | 0 | Samar Island Natural Park | | | 21.3% | 13.0% | 0.51 | Done |
| 115 | Samar | Sulat | 5.40 | 20157.0 | Pondage | 71.1 | 19.23 | 34.2 | 65.0 | 25.0 | Rock Fill | 45.0 | 155.0 | 65.0 | 103365000 | 11845929 | 0 | 0 | 80 | 30 | 38% | 40% | 36.73 | 7500 | Samar Island Natural Park | | | 0.3% | -2.6% | 1.67 | |
| 116 | Samar | Borongan | 9.30 | 35166.8 | Pondage | 99.5 | 26.90 | 42.1 | 65.0 | 17.0 | Rock Fill | 53.0 | 217.0 | 65.0 | 75472000 | 15348003 | 0 | 0 | 90 | 30 | 38% | 41% | 56.57 | 6750 | Samar Island Natural Park | | 1.0 | 2.0% | -1.1% | 1.47 | |
| 117 | Samar | Canoving | 1.00 | 4567.2 | Run of River | 37.9 | 7.66 | 16.8 | 40.0 | 18.0 | | 10.0 | 80.0 | | | | 0 | 0 | 40 | 30 | 45% | 50% | 10.92 | 6250 | Samar Island Natural Park | | 1.0 | -3.7% | -6.0% | 2.23 | |
| 118 | Samar | Buhid | 20.20 | 120333.2 | Run of River | 160.8 | 26.17 | 92.2 | 139.0 | 37.0 | | 7.0 | 10.0 | | | | 0 | 0 | 310 | 3100 | 56% | 65% | 30.61 | 12000 | Samar Island Natural Park | | | 32.0% | 19.9% | 0.38 | Done |
| 119 | Samar | Suribao | 16.10 | 38529.5 | Pondage | 126.0 | 37.79 | 51.1 | 75.0 | 18.0 | Rock Fill | 62.0 | 232.0 | 75.0 | 230764000 | 24428075 | 0 | 0 | 110 | 30 | 27% | 26% | 83.74 | 20000 | Samar Island Natural Park | | 1.0 | -1.2% | -4.7% | 1.99 | |
| 120 | Samar | Binuangan No.1 | 2.60 | 10740.3 | Run of River | 49.4 | 6.09 | 52.6 | 100.0 | 38.0 | | 10.0 | 27.0 | | | | 2680 | 360 | 260 | 10 | 43% | 45% | 16.27 | 17000 | Samar Island Natural Park | | | 2.6% | -0.4% | 1.44 | |
| 121 | Samar | Binuangan No.2 | 0.74 | 3621.9 | Run of River | 61.3 | 5.92 | 15.9 | 38.0 | 15.0 | | 10.0 | 57.0 | | | | 0 | 3800 | 40 | 10 | 48% | 53% | 20.83 | 14000 | Samar Island Natural Park | | | - | - | 5.36 | |
| 122 | Samar | Llorente No.1 | 7.20 | 17279.2 | Run of River | 24.3 | 7.29 | 120.9 | 200.0 | 70.0 | | 10.0 | 43.0 | | | | 2750 | 0 | 230 | 10 | 27% | 26% | 19.48 | 15000 | Samar Island Natural Park | | | 9.1% | 3.9% | 1.06 | |
| 123 | Samar | Llorente No.2 | 1.50 | 3136.1 | Run of River | 25.5 | 8.30 | 23.1 | 100.0 | 70.0 | | 10.0 | 45.0 | | | | 1150 | 0 | 70 | 10 | 26% | 23% | 12.30 | 15000 | Samar Island Natural Park | | | -16.2% | - | 3.74 | |
| 124 | Samar | Llorente No.3 | 1.40 | 5884.4 | Run of River | 61.6 | 7.59 | 23.5 | 100.0 | 70.0 | | 10.0 | 44.0 | | | | 800 | 0 | 60 | 10 | 43% | 46% | 11.67 | 15000 | | | | -1.0% | -3.6% | 1.90 | |
| 125 | Samar | Llorente No.4 | 17.40 | 80523.0 | Pondage | 214.6 | 40.86 | 51.1 | 65.0 | 8.0 | Rock Fill | 62.0 | 400.0 | 65.0 | 279868000 | 38093227 | 0 | 0 | 110 | 30 | 47% | 50% | 107.49 | 15000 | Samar Island Natural Park | | | 4.2% | 1.0% | 1.22 | |
| 126 | Samar | Catadongan | 2.00 | 9919.2 | Run of River | 36.2 | 6.12 | 41.1 | 60.0 | 10.0 | | 10.0 | 48.0 | | | | 0 | 2950 | 130 | 10 | 50% | 54% | 17.78 | 10500 | Samar Island Natural Park | | | 0.2% | -2.4% | 1.67 | |
| 127 | Panay | Aclan No.2 | 5.40 | 42191.9 | Run of River | 225.8 | 13.54 | 49.1 | 105.0 | 40.0 | | 10.0 | 67.0 | | | | 0 | 9700 | 200 | 30 | 73% | 85% | 55.01 | 250 | | | 1.0 | 3.8% | 1.3% | 1.19 | |
| 128 | Panay | Timbaban No.1 | 3.30 | 18573.4 | Run of River | 40.9 | 5.11 | 80.4 | 350.0 | 260.0 | | 10.0 | 59.0 | | | | 0 | 3320 | 220 | 10 | 52% | 61% | 18.98 | 10400 | Aklan River Water Forest Reserve | | | 7.8% | 4.2% | 0.95 | |
| 129 | Panay | Ibajay No.1 | 4.00 | 14333.4 | Run of River | 16.8 | 3.23 | 151.6 | 260.0 | 100.0 | | 10.0 | 27.0 | | | | 1625 | 0 | 340 | 10 | 37% | 39% | 11.92 | 9000 | | | | 13.2% | 7.5% | 0.78 | Canceled |
| 130 | Panay | Ibajay No.2 | 4.40 | 25182.4 | Reserovir | 87.7 | 10.51 | 51.5 | 95.0 | 35.0 | Concrete | 10.0 | 91.0 | 95.0 | 13890000 | 10038604 | 0 | 2552 | 110 | 30 | 53% | 62% | 24.21 | 12500 | | | 1.0 | 8.7% | 5.0% | 0.89 | |
| 131 | Panay | Dugayan | 0.98 | 4745.9 | Run of River | 17.4 | 2.31 | 54.0 | 141.0 | 78.0 | | 5.0 | 5.0 | | | | 2930 | 0 | 330 | 30 | 46% | 53% | 9.99 | 11000 | | | | -2.0% | -4.3% | 2.00 | Done |
| 132 | Panay | Bulanao No.1 | 3.30 | 10223.4 | Run of River | 11.3 | 2.87 | 139.8 | 269.0 | 122.0 | | 7.0 | 28.0 | | | | 600 | 0 | 420 | 30 | 31% | 34% | 9.66 | 3350 | Northwest Panay Peninsula Natural Park | | | 11.2% | 5.9% | 0.88 | Done |
| 133 | Panay | Bulanao No.2 | 2.00 | 7001.7 | Run of River | 11.8 | 2.97 | 83.0 | 140.0 | 50.0 | | 10.0 | 22.0 | | | | 1500 | 0 | 140 | 30 | 32% | 38% | 8.57 | 2522 | Northwest Panay Peninsula Natural Park | | | 6.1% | 2.7% | 1.14 | |
| 134 | Panay | San Roque | 1.80 | 6307.9 | Run of River | 9.2 | 2.30 | 96.6 | 140.0 | 35.0 | | 10.0 | 46.0 | | | | 2447 | 0 | 250 | 30 | 32% | 38% | 9.36 | 2500 | Northwest Panay Peninsula Natural Park | | | 3.2% | 0.3% | 1.37 | |
| 135 | Panay | Ipayo | 0.19 | 1139.6 | Run of River | 7.2 | 0.90 | 27.9 | 70.0 | 35.0 | | 10.0 | 33.0 | | | | 1372 | 0 | 210 | 100 | 52% | 65% | 4.49 | 1667 | | | | - | - | 3.65 | |
| 136 | Panay | Bacalan | 1.40 | 5266.8 | Run of River | 19.7 | 4.66 | 38.6 | 80.0 | 35.0 | | 10.0 | 27.0 | | | | 1034 | 0 | 100 | 30 | 34% | 41% | 8.64 | 3806 | | | | 1.8% | -0.8% | 1.53 | |
| 137 | Panay | Panganta | 0.95 | 3429.5 | Run of River | 8.3 | 2.09 | 57.7 | 100.0 | 35.0 | | 10.0 | 29.0 | | | | 1685 | 0 | 170 | 30 | 32% | 39% | 7.08 | 3213 | | | | -1.3% | -3.5% | 1.92 | |
| 138 | Panay | Bacong | 1.10 | 6318.8 | Run of River | 24.8 | 3.10 | 46.1 | 80.0 | 25.0 | | 10.0 | 41.0 | | | | 2900 | 0 | 130 | 50 | 52% | 62% | 9.47 | 3849 | | | | 2.3% | -0.3% | 1.39 | |
| 139 | Panay | Tibiao No.2 | 1.50 | 7449.2 | Run of River | 49.3 | 5.86 | 32.3 | 85.0 | 44.0 | | 10.0 | 65.0 | | | | 2650 | 0 | 160 | 50 | 49% | 54% | 11.93 | 450 | | | | 1.6% | -1.1% | 1.47 | Done |
| 140 | Panay | Dalanas No.1 | 7.10 | 40534.9 | Run of River | 100.4 | 12.04 | 71.7 | 200.0 | 120.0 | | 10.0 | 43.0 | | | | 3550 | 2820 | 130 | 10 | 53% | 62% | 31.62 | 6788 | Dalanas River Water Forest | | | 12.5% | 7.8% | 0.72 | |
| 141 | Panay | Cairauan | 3.20 | 17868.2 | Run of River | 29.8 | 3.72 | 106.4 | 200.0 | 85.0 | | 10.0 | 62.0 | | | | 0 | 4180 | 410 | 100 | 52% | 61% | 18.73 | 6162 | | | | 7.4% | 3.9% | 0.97 | |
| 142 | Panay | Paliwan No.2 | 3.30 | 20335.4 | Run of River | 116.2 | 7.97 | 50.6 | 140.0 | 80.0 | | 10.0 | 123.0 | | | | 2500 | 3500 | 120 | 10 | 60% | 67% | 27.88 | 6731 | | | | 3.4% | 0.7% | 1.26 | |
| 143 | Panay | Paliwan No.3 | 2.40 | 17240.7 | Run of River | 150.2 | 7.69 | 38.9 | 80.0 | 30.0 | | 10.0 | 40.0 | | | | 0 | 5025 | 150 | 50 | 70% | 78% | 24.22 | 984 | | | 1.0 | 2.9% | 0.4% | 1.28 | |
| 144 | Panay | Cadian | 4.90 | 22566.2 | Run of River | 55.0 | 6.54 | 92.8 | 280.0 | 180.0 | | 10.0 | 37.0 | | | | 1240 | 3130 | 180 | 10 | 43% | 50% | 21.05 | 12500 | | | | 9.8% | 5.5% | 0.87 | |
| 145 | Panay | Cangaranan No.1 | 2.70 | 13303.1 | Run of River | 39.9 | 4.34 | 78.6 | 320.0 | 230.0 | | 10.0 | 38.0 | | | | 4616 | 0 | 380 | 30 | 45% | 53% | 17.39 | 14500 | | | | 4.4% | 1.3% | 1.23 | |
| 146 | Panay | Cangaranan No.2 | 2.70 | 13171.7 | Run of River | 54.7 | 6.05 | 56.4 | 245.0 | 180.0 | | 10.0 | 61.0 | | | | 2580 | 0 | 150 | 10 | 45% | 53% | 15.15 | 12000 | | | | 6.3% | 2.8% | 1.08 | |
| 147 | Panay | Cangaranan No.3 | 6.10 | 37624.9 | Run of River | 144.7 | 10.30 | 73.0 | 180.0 | 100.0 | | 10.0 | 67.0 | | | | 0 | 9160 | 120 | 900 | 59% | 67% | 38.15 | 7000 | | | | 7.7% | 4.3% | 0.93 | |
| 148 | Panay | Cangaranan No.4 | 1.20 | 7659.4 | Run of River | 189.7 | 13.02 | 11.9 | 100.0 | 80.0 | | 10.0 | 78.0 | | | | 2400 | 0 | 40 | 10 | 60% | 69% | 15.54 | 4500 | | | | -1.7% | -3.8% | 1.87 | |
| 149 | Panay | Ipayo | 1.10 | 4956.1 | Run of River | 22.4 | 2.57 | 52.3 | 100.0 | 40.0 | | 10.0 | 49.0 | | | | 3100 | 0 | 300 | 10 | 44% | 49% | 11.65 | 8500 | | | | -3.5% | -5.8% | 2.20 | |
| 150 | Panay | Maninila | 2.60 | 12360.7 | Run of River | 54.6 | 6.04 | 53.1 | 260.0 | 200.0 | | 10.0 | 47.0 | | | | 0 | 5080 | 120 | 10 | 45% | 52% | 22.79 | 22500 | | | | -0.2% | -2.7% | 1.74 | |
| 151 | Panay | Inyaman | 1.40 | 6439.2 | Run of River | 16.7 | 1.91 | 90.6 | 140.0 | 40.0 | | 10.0 | 32.0 | | | | 2881 | 0 | 290 | 30 | 44% | 50% | 9.55 | 8500 | | | | 2.7% | -0.2% | 1.40 | |
| 152 | Panay | Banayan | 1.40 | 7002.6 | Run of River | 31.6 | 3.28 | 54.0 | 100.0 | 37.0 | | 10.0 | 58.0 | | | | 2337 | 0 | 300 | 200 | 47% | 54% | 10.70 | 5000 | | | | 2.2% | -0.5% | 1.42 | |
| 153 | Panay | Maoll | 0.99 | 5204.1 | Run of River | 30.0 | 3.07 | 40.9 | 100.0 | 50.0 | | 10.0 | 65.0 | | | | 3500 | 0 | 190 | 30 | 47% | 57% | 10.78 | 2200 | | | | -1.8% | -4.1% | 1.91 | |
| 154 | Panay | Tipuluan | 1.20 | 6065.9 | Run of River | 47.9 | 4.56 | 32.2 | 140.0 | 100.0 | | 10.0 | 35.0 | | | | 1696 | 0 | 170 | 30 | 49% | 55% | 9.58 | 5000 | Sibalom Natural Park | | | 1.7% | -0.8% | 1.47 | |
| 155 | Panay | Tiolas | 0.62 | 3070.0 | Run of River | 13.5 | 1.57 | 50.6 | 120.0 | 60.0 | | 10.0 | 38.0 | | | | 3642 | 0 | 220 | 50 | 44% | 54% | 8.18 | 2500 | | | | -5.5% | -7.7% | 2.46 | |

# Appendix-4 List of the Specifications of 252 Sites

| ID | Island | Point | Max Output (MW) | Annual Energy Generation (MWh) | Type | Catchment Area (Km$^2$) | Max Power Discharge (m$^2$/s) | Effective Head (m) | Water Level (m) | | Dam | | | Reservoir | | | Headrace (m) | | Penstock (m) | Tailrace (m) | Capacity | | Construction Cost (MUSD) | Road Extension (m) | Socio Environmental Assessment | | | EIRR (30 Year) | FIRR (30 Year) | Unit Cost /kWh ($) | Site Reconnaissance |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Intake | Tailrace | Type | Height (m) | Crest Length (m) | High Water Level (m) | Total Reservoir Volume (m$^3$) | Effective Volume (m$^3$) | Open Channel | Tunnel | | | River Water (%) | Facility (%) | | | Protected Area | Volcano | Residence | | | | |
| 156 | Panay | Siuaragan | 1.60 | 7831.1 | Run of River | 45.7 | 4.67 | 41.8 | 100.0 | 50.0 | | 10.0 | 36.0 | | | | 2260 | 0 | 110 | 10 | 47% | 53% | 10.60 | 4000 | | | | 3.9% | 0.9% | 1.26 | |
| 157 | Panay | Sibalom | 2.20 | 9311.2 | Run of River | 26.8 | 3.47 | 78.2 | 200.0 | 110.0 | | 10.0 | 26.0 | | | | 0 | 4670 | 380 | 350 | 40% | 46% | 18.92 | 5000 | | | | -1.3% | -3.9% | 1.87 | |
| 158 | Panay | Aganan | 3.70 | 18000.8 | Run of River | 39.1 | 4.25 | 107.8 | 220.0 | 100.0 | | 10.0 | 67.0 | | | | 0 | 3950 | 780 | 10 | 45% | 53% | 22.07 | 4832 | | | | 5.3% | 2.0% | 1.13 | |
| 159 | Panay | Mambusao | 0.96 | 5079.8 | Run of River | 71.2 | 7.28 | 16.8 | 60.0 | 35.0 | | 10.0 | 46.0 | | | | 2650 | 0 | 150 | 50 | 47% | 57% | 14.31 | 3623 | | | | -6.6% | -8.6% | 2.59 | |
| 160 | Panay | Panay No.1 | 8.90 | 44932.4 | Run of River | 142.9 | 14.61 | 74.0 | 200.0 | 120.0 | | 30.0 | 200.0 | | | | 8620 | 0 | 130 | 10 | 47% | 55% | 42.82 | 13500 | | | 1.0 | 9.2% | 5.1% | 0.88 | |
| 161 | Panay | Pacuan No.1 | 2.60 | 12146.3 | Run of River | 38.6 | 4.42 | 72.9 | 340.0 | 260.0 | | 10.0 | 29.0 | | | | 1160 | 0 | 120 | 10 | 44% | 51% | 12.56 | 16500 | Jalaur River Water Forest | | | 8.0% | 4.1% | 0.99 | |
| 162 | Panay | Pacuan No.2 | 0.24 | 834.0 | Run of River | 4.8 | 0.94 | 33.1 | 260.0 | 220.0 | | 10.0 | 32.0 | | | | 1554 | 0 | 110 | 10 | 30% | 38% | 7.27 | 14000 | Jalaur River Water Forest | | | - | - | 8.52 | |
| 163 | Panay | Pacuan No.3 | 2.30 | 11808.1 | Run of River | 56.1 | 5.74 | 50.9 | 220.0 | 160.0 | | 10.0 | 59.0 | | | | 3160 | 0 | 110 | 10 | 47% | 56% | 14.84 | 10500 | Jalaur River Water Forest | | | 4.9% | 1.7% | 1.18 | |
| 164 | Panay | Ulian No.1 | 1.50 | 7352.7 | Run of River | 54.2 | 5.53 | 33.2 | 240.0 | 200.0 | | 10.0 | 31.0 | | | | 1060 | 0 | 60 | 30 | 47% | 53% | 9.99 | 6500 | | | | 3.8% | 0.8% | 1.27 | |
| 165 | Panay | Ulian No.2 | 1.00 | 7664.7 | Run of River | 59.2 | 3.78 | 33.8 | 193.0 | 151.0 | | 7.0 | 10.0 | | | | 1500 | 0 | 240 | 400 | 69% | 83% | 8.38 | 700 | | | | 6.2% | 3.4% | 1.00 | Done |
| 166 | Panay | Suage | 2.50 | 11219.7 | Run of River | 34.0 | 4.04 | 75.8 | 260.0 | 175.0 | | 10.0 | 47.0 | | | | 0 | 2400 | 370 | 30 | 43% | 49% | 15.22 | 5635 | | | | 4.0% | 0.8% | 1.26 | |
| 167 | Marinduque | Boac No.1 | 3.20 | 14491.4 | Run of River | 38.8 | 5.36 | 73.1 | 220.0 | 140.0 | | 10.0 | 25.0 | | | | 0 | 2520 | 130 | 10 | 40% | 49% | 15.70 | 3000 | | | | 7.3% | 3.5% | 1.00 | |
| 168 | Marinduque | Boac No.2 | 6.60 | 30459.7 | Reserovir | 77.9 | 10.77 | 75.3 | 135.0 | 50.0 | Rock Fill | 50.0 | 264.0 | 135.0 | 64875000 | 6994623 | 0 | 3360 | 220 | 30 | 40% | 50% | 59.34 | 270 | | | 1.0 | -0.8% | -3.4% | 1.77 | |
| 169 | Marinduque | Makulapnit | 0.90 | 6438.0 | Run of River | 63.7 | 4.36 | 26.2 | 82.0 | 47.0 | | 10.0 | 137.0 | | | | 0 | 3050 | 70 | 10 | 64% | 78% | 13.52 | 100 | | | | -2.3% | -4.3% | 1.91 | |
| 170 | Marinduque | Dawis | 0.34 | 1895.3 | Run of River | 5.6 | 0.70 | 63.7 | 200.0 | 130.0 | | 10.0 | 24.0 | | | | 769 | 0 | 150 | 10 | 44% | 60% | 3.45 | 454 | | | | -0.2% | -2.5% | 1.68 | |
| 171 | Marinduque | Libtangin | 0.53 | 2942.2 | Run of River | 14.5 | 1.80 | 38.4 | 80.0 | 35.0 | | 10.0 | 28.0 | | | | 1300 | 0 | 100 | 10 | 44% | 60% | 5.66 | 200 | | | | -0.9% | -3.2% | 1.77 | |
| 172 | Marinduque | Catangon | 0.68 | 3702.9 | Run of River | 15.8 | 1.95 | 44.6 | 100.0 | 50.0 | | 10.0 | 50.0 | | | | 3353 | 0 | 120 | 10 | 44% | 59% | 6.99 | 1727 | Marinduque Wildlife Sanctuary | | | -0.6% | -3.0% | 1.74 | |
| 173 | Marinduque | Sabang | 0.55 | 3046.5 | Run of River | 10.9 | 1.35 | 52.9 | 100.0 | 40.0 | | 10.0 | 39.0 | | | | 1620 | 0 | 150 | 10 | 44% | 60% | 5.54 | 525 | Marinduque Wildlife Sanctuary | | | -0.1% | -2.5% | 1.67 | |
| 174 | Marinduque | Jolo | 0.86 | 4698.6 | Run of River | 23.9 | 2.96 | 37.2 | 60.0 | 15.0 | | 10.0 | 48.0 | | | | 2179 | 0 | 170 | 30 | 44% | 59% | 8.53 | 127 | | | | -0.1% | -2.5% | 1.66 | |
| 175 | Marinduque | Tawiran | 0.77 | 4158.2 | Run of River | 20.3 | 2.56 | 38.6 | 80.0 | 35.0 | | 10.0 | 99.0 | | | | 1034 | 0 | 110 | 10 | 43% | 59% | 7.44 | 930 | Torrijos Water Forest Reserve | | | 0.1% | -2.4% | 1.65 | |
| 176 | Marinduque | Cabuyo | 0.60 | 3294.7 | Run of River | 15.9 | 1.96 | 39.4 | 80.0 | 35.0 | | 10.0 | 39.0 | | | | 2133 | 0 | 180 | 30 | 44% | 60% | 6.39 | 2887 | | | | -1.0% | -3.3% | 1.81 | |
| 177 | Romblon | Agpanabat | 0.08 | 421.0 | Run of River | 3.9 | 0.54 | 19.4 | 65.0 | 40.0 | | 10.0 | 27.0 | | | | 400 | 0 | 50 | 10 | 40% | 57% | 2.60 | 2720 | | | | - | - | 5.88 | |
| 178 | Romblon | Sablayan | 0.32 | 1781.5 | Run of River | 13.9 | 1.72 | 24.3 | 45.0 | 15.0 | | 10.0 | 27.0 | | | | 550 | 0 | 60 | 10 | 44% | 60% | 4.19 | 297 | | | | -3.7% | -5.8% | 2.16 | |
| 179 | Romblon | Porpagoja | 0.87 | 5778.2 | Run of River | 36.7 | 2.82 | 39.2 | 60.0 | 15.0 | | 10.0 | 177.0 | | | | 0 | 0 | 70 | 50 | 60% | 72% | 7.17 | 3800 | | | | 4.6% | 1.9% | 1.16 | |
| 180 | Romblon | Libertad | 0.11 | 577.8 | Run of River | 1.9 | 0.28 | 54.1 | 100.0 | 40.0 | | 10.0 | 45.0 | | | | 537 | 0 | 110 | 10 | 38% | 57% | 2.80 | 2952 | | | | - | - | 4.61 | |
| 181 | Romblon | Gabauan | 0.51 | 2780.9 | Run of River | 9.8 | 1.24 | 53.2 | 100.0 | 40.0 | | 10.0 | 45.0 | | | | 1261 | 0 | 160 | 10 | 43% | 59% | 5.65 | 4266 | | | | -1.6% | -3.9% | 1.91 | |
| 182 | Romblon | Sicop | 0.38 | 2107.2 | Run of River | 9.2 | 1.16 | 43.0 | 100.0 | 50.0 | | 10.0 | 69.0 | | | | 1592 | 0 | 110 | 10 | 43% | 60% | 5.30 | 1000 | | | | -4.7% | -6.8% | 2.32 | |
| 183 | Romblon | Carolina | 0.30 | 1682.9 | Run of River | 9.7 | 1.20 | 32.8 | 100.0 | 60.0 | | 10.0 | 27.0 | | | | 1800 | 0 | 100 | 30 | 44% | 61% | 4.63 | 120 | | | | -6.2% | -8.2% | 2.52 | |
| 184 | Romblon | Pawala | 0.56 | 4028.2 | Run of River | 11.8 | 0.80 | 89.7 | 120.0 | 20.0 | | 10.0 | 27.0 | | | | 2737 | 0 | 1030 | 30 | 64% | 78% | 6.86 | 3000 | | | | 0.4% | -1.8% | 1.58 | |
| 185 | Romblon | Punog | 0.60 | 4005.5 | Run of River | 11.9 | 0.91 | 84.5 | 100.0 | 9.0 | | 10.0 | 27.0 | | | | 3800 | 0 | 310 | 30 | 60% | 72% | 5.85 | 5000 | | | | 2.5% | 0.0% | 1.38 | |
| 186 | Romblon | Olango | 0.43 | 2341.3 | Run of River | 11.5 | 1.45 | 38.3 | 60.0 | 15.0 | | 10.0 | 49.0 | | | | 1380 | 0 | 90 | 30 | 43% | 59% | 5.70 | 3750 | | | | -4.2% | -6.3% | 2.28 | |
| 187 | Romblon | Binaya-an | 0.62 | 3354.7 | Run of River | 6.8 | 0.85 | 93.2 | 160.0 | 60.0 | | 10.0 | 27.0 | | | | 1123 | 0 | 190 | 10 | 43% | 59% | 4.61 | 2500 | | | | 3.6% | 0.7% | 1.29 | |
| 188 | Romblon | Cantingas No.1 | 2.80 | 12974.5 | Run of River | 19.4 | 2.68 | 131.2 | 360.0 | 220.0 | | 10.0 | 40.0 | | | | 2477 | 0 | 210 | 10 | 40% | 50% | 10.36 | 6000 | Mt. Guiting-Guiting Natural Park | | | 12.9% | 8.2% | 0.75 | |
| 189 | Romblon | Cantingas No.2 | 1.30 | 8898.0 | Run of River | 29.7 | 2.29 | 73.8 | 220.0 | 140.0 | | 10.0 | 40.0 | | | | 3296 | 0 | 190 | 10 | 60% | 74% | 7.73 | 5000 | Mt. Guiting-Guiting Natural Park | | | 10.1% | 6.5% | 0.82 | |
| 190 | Romblon | Cantingas No.3 | 2.70 | 20950.6 | Run of River | 45.4 | 2.82 | 121.3 | 140.0 | 10.0 | | 10.0 | 40.0 | | | | 1670 | 0 | 410 | 30 | 68% | 84% | 9.75 | 600 | | | | 24.4% | 16.9% | 0.43 | Canceled |
| 191 | Romblon | Cambajao | 0.44 | 2412.1 | Run of River | 14.8 | 1.87 | 30.6 | 100.0 | 60.0 | | 10.0 | 27.0 | | | | 5855 | 0 | 140 | 10 | 43% | 59% | 7.97 | 2500 | | | | -10.7% | -12.5% | 3.05 | |
| 192 | Romblon | Lumbang | 0.78 | 4272.5 | Run of River | 23.5 | 2.91 | 34.4 | 80.0 | 40.0 | | 10.0 | 27.0 | | | | 5800 | 0 | 140 | 100 | 44% | 59% | 9.86 | 3500 | | | | -3.4% | -5.5% | 2.14 | |
| 193 | Romblon | Agbalit | 0.59 | 3227.5 | Run of River | 8.3 | 1.05 | 72.7 | 130.0 | 50.0 | | 10.0 | 33.0 | | | | 1700 | 0 | 170 | 30 | 43% | 59% | 5.35 | 2500 | | | | 1.1% | -1.5% | 1.55 | |
| 194 | Luzon | Aganmala | 5.20 | 16485.2 | Run of River | 43.0 | 5.30 | 119.7 | 360.0 | 230.0 | | 10.0 | 33.0 | | | | 5430 | 0 | 200 | 10 | 33% | 34% | 20.17 | 17500 | | | | 6.4% | 2.1% | 1.15 | |
| 195 | Luzon | Tamdagan No.1 | 9.80 | 28541.0 | Run of River | 52.1 | 7.48 | 159.2 | 400.0 | 230.0 | | 10.0 | 33.0 | | | | 5680 | 0 | 310 | 10 | 30% | 32% | 28.22 | 17500 | | | | 10.7% | 5.3% | 0.92 | |
| 196 | Luzon | Tamdagan No.2 | 2.40 | 13642.2 | Run of River | 200.2 | 8.74 | 34.8 | 230.0 | 185.0 | | 10.0 | 40.0 | | | | 0 | 3400 | 300 | 300 | 58% | 62% | 23.85 | 6700 | | | 1.0 | 0.3% | -2.1% | 1.61 | |
| 197 | Luzon | Labugaon | 8.90 | 33193.6 | Run of River | 130.7 | 12.30 | 87.7 | 200.0 | 100.0 | | 40.0 | 180.0 | | | | 12300 | 0 | 180 | 150 | 39% | 40% | 53.77 | 3000 | | | | 1.9% | -1.2% | 1.48 | |
| 198 | Luzon | Salsona | 5.90 | 17990.8 | Run of River | 61.3 | 7.75 | 93.3 | 270.0 | 167.0 | | 10.0 | 27.0 | | | | 4300 | 0 | 190 | 10 | 33% | 33% | 19.78 | 685 | | | | 8.4% | 3.3% | 1.01 | Done |
| 199 | Luzon | Modongan No.1 | 11.00 | 28647.3 | Run of River | 71.9 | 12.41 | 107.7 | 385.0 | 267.0 | | 5.0 | 20.0 | | | | 3980 | 0 | 200 | 30 | 27% | 28% | 26.86 | 7995 | | | | 12.6% | 6.1% | 0.87 | Done |
| 200 | Luzon | Modongan No.2 | 10.40 | 33405.6 | Run of River | 120.8 | 13.60 | 92.6 | 255.0 | 156.0 | | 10.0 | 53.0 | | | | 0 | 6620 | 190 | 230 | 35% | 35% | 39.81 | 2870 | | | | 6.8% | 2.4% | 1.09 | Done |
| 201 | Luzon | Nailiman No.1 | 6.50 | 33211.2 | Run of River | 77.7 | 5.27 | 150.7 | 400.0 | 240.0 | | 10.0 | 67.0 | | | | 0 | 8130 | 460 | 10 | 48% | 55% | 32.84 | 3750 | Quirino Protected Landscape | | | 8.5% | 4.7% | 0.91 | |
| 202 | Luzon | Nailiman No.2 | 2.80 | 22334.9 | Run of River | 147.0 | 7.72 | 44.8 | 220.0 | 166.0 | | 5.0 | 102.0 | | | | 0 | 3200 | 160 | 10 | 75% | 87% | 20.38 | 2000 | Quirino Protected Landscape | | | 8.9% | 5.7% | 0.84 | Done |
| 203 | Luzon | Dabubu No.1 | 2.40 | 12401.8 | Run of River | 61.2 | 4.15 | 72.9 | 380.0 | 300.0 | | 10.0 | 33.0 | | | | 0 | 2430 | 190 | 10 | 48% | 56% | 15.47 | 4000 | Quirino Protected Landscape | | | 5.0% | 1.8% | 1.15 | |
| 204 | Luzon | Dabubu No.2 | 6.70 | 39282.3 | Run of River | 74.1 | 7.06 | 115.7 | 305.0 | 175.0 | | 5.0 | 40.0 | | | | 0 | 6590 | 580 | 10 | 51% | 64% | 34.43 | 600 | Quirino Protected Landscape | | | 10.2% | 6.6% | 0.80 | Done |
| 205 | Luzon | Dibuluan No.1 | 2.80 | 14237.5 | Run of River | 70.7 | 4.79 | 72.3 | 540.0 | 460.0 | | 10.0 | 27.0 | | | | 0 | 4160 | 180 | 10 | 48% | 55% | 22.01 | 16500 | | | | 2.1% | -0.7% | 1.45 | |
| 206 | Luzon | Dibuluan No.2 | 2.20 | 17748.0 | Run of River | 100.5 | 5.36 | 51.8 | 360.0 | 300.0 | | 5.0 | 30.0 | | | | 0 | 5230 | 310 | 10 | 74% | 87% | 23.87 | 9700 | Quirino Protected Landscape | | | 3.4% | 0.9% | 1.24 | Done |
| 207 | Luzon | Dibuluan No.3 | 18.00 | 68604.3 | Reserovir | 194.1 | 20.34 | 106.3 | 295.0 | 180.0 | Rock Fill | 105.0 | 360.0 | 295.0 | 275275000 | 19770438 | 0 | 1400 | 380 | 400 | 35% | 41% | 164.95 | 3000 | Quirino Protected Landscape | | | -3.5% | -6.1% | 2.18 | |
| 208 | Luzon | Dibuluan No.4 | 0.49 | 2791.8 | Run of River | 211.5 | 13.15 | 4.8 | 180.0 | 170.0 | Rock Fill | 10.0 | 222.0 | 180.0 | 19035000 | 33565050 | 0 | 0 | 30 | 20 | 50% | 62% | 14.46 | 0 | | | 1.0 | - | - | 4.72 | |
| 209 | Luzon | Ilagan L-1 | 5.20 | 21602.7 | Run of River | 83.4 | 7.74 | 82.9 | 500.0 | 410.0 | | 20.0 | 80.0 | | | | 0 | 1080 | 150 | 10 | 38% | 45% | 21.42 | 11000 | Quirino Protected Landscape | | | 9.1% | 5.0% | 0.92 | |
| 210 | Luzon | Ilagan N0.1 | 6.40 | 36000.2 | Run of River | 197.1 | 11.64 | 67.4 | 480.0 | 400.0 | | 20.0 | 200.0 | | | | 0 | 6500 | 160 | 10 | 52% | 61% | 48.64 | 11000 | | | | 3.7% | 0.9% | 1.24 | |
| 211 | Luzon | Ilagan N0.2 | 12.30 | 84915.0 | Run of River | 307.2 | 16.21 | 91.9 | 400.0 | 300.0 | | 5.0 | 40.0 | | | | 8150 | 2130 | 140 | 10 | 71% | 75% | 53.49 | 10500 | | | | 16.4% | 11.1% | 0.58 | Canceled |
| 212 | Luzon | Ilagan R-1 | 5.10 | 28499.9 | Run of River | 117.9 | 6.96 | 89.7 | 400.0 | 300.0 | | 5.0 | 40.0 | | | | 9680 | 0 | 180 | 10 | 52% | 61% | 28.81 | 16500 | | | | 7.9% | 4.3% | 0.94 | |
| 213 | Luzon | Ilagan N0.3 | 49.20 | 270806.7 | Reserovir | 544.4 | 53.07 | 108.6 | 295.0 | 180.0 | Rock Fill | 120.0 | 445.0 | 295.0 | 415800000 | 57728820 | 0 | 0 | 210 | 50 | 55% | 60% | 299.45 | 10000 | | | | 6.6% | 3.3% | 1.01 | Canceled |
| 214 | Luzon | Ilagan R-2 | 5.80 | 21967.0 | Run of River | 71.3 | 7.47 | 94.9 | 305.0 | 200.0 | | 20.0 | 110.0 | | | | 5316 | 0 | 190 | 350 | 35% | 41% | 43.78 | 19000 | | | | -0.9% | -3.6% | 1.84 | |
| 215 | Luzon | Buyasan | 1.50 | 7430.5 | Run of River | 43.9 | 2.98 | 61.6 | 200.0 | 123.0 | | 10.0 | 73.0 | | | | 9390 | 0 | 140 | 10 | 48% | 54% | 18.23 | 6500 | | | | -4.2% | -6.4% | 2.26 | |
| 216 | Luzon | Disabungan | 3.80 | 21104.3 | Run of River | 116.5 | 6.87 | 67.7 | 200.0 | 120.0 | | 5.0 | 20.0 | | | | 0 | 9010 | 200 | 10 | 52% | 60% | 34.93 | 400 | Nothern Sierra Madre Natural | | | 1.0% | -1.4% | 1.51 | |
| 217 | Luzon | Disabungan R-1 | 5.60 | 31433.5 | Run of River | 147.8 | 8.72 | 78.7 | 220.0 | 135.0 | | 10.0 | 33.0 | | | | 0 | 5530 | 210 | 10 | 52% | 61% | 28.25 | 5500 | Nothern Sierra Madre Natural | | | 9.9% | 5.9% | 0.83 | |
| 218 | Luzon | Catalangan No.2 | 7.70 | 43166.8 | Reserovir | 360.0 | 21.48 | 43.9 | 105.0 | 55.0 | Concrete | 55.0 | 214.0 | 105.0 | 79200000 | 34763097 | 3300 | 0 | 160 | 30 | 52% | 61% | 61.35 | 2250 | | | 1.0 | 3.0% | 0.3% | 1.29 | |
| 219 | Luzon | Maplas | 9.50 | 56438.4 | Run of River | 137.9 | 11.27 | 102.6 | 210.0 | 98.0 | | 5.0 | 12.0 | | | | 3200 | 7000 | 190 | 10 | 60% | 64% | 47.26 | 11600 | | | | 11.0% | 6.8% | 0.77 | Done |
| 220 | Luzon | Masipi | 0.75 | 3430.7 | Run of River | 26.3 | 2.44 | 39.5 | 100.0 | 50.0 | | 10.0 | 147.0 | | | | 2000 | 0 | 1130 | 100 | 38% | 50% | 13.55 | 0 | | | | - | - | 3.60 | |
| 221 | Luzon | Barayon | 1.20 | 5637.8 | Run of River | 49.1 | 4.05 | 36.6 | 100.0 | 55.0 | | 10.0 | 133.0 | | | | 3050 | 0 | 120 | 10 | 42% | 51% | 12.34 | 1250 | | | | -2.5% | -4.8% | 2.01 | |
| 222 | Luzon | Tuguegarao No.1 | 7.90 | 44212.2 | Run of River | 94.8 | 5.60 | 171.4 | 340.0 | 160.0 | | 5.0 | 20.0 | | | | 0 | 5787 | 280 | 10 | 52% | 61% | 29.99 | 11000 | Penablanca Protected Landscape and Seascape | | | 15.6% | 9.9% | 0.63 | |
| 223 | Luzon | Tuguegarao No.2 | 4.70 | 23997.3 | Run of River | 172.0 | 11.77 | 49.7 | 178.0 | 122.0 | | 5.0 | 30.0 | | | | 0 | 3320 | 230 | 10 | 48% | 55% | 25.82 | 7250 | Penablanca Protected Landscape and Seascape | | | 7.2% | 3.7% | 0.99 | Done |
| 224 | Luzon | Natulud No.1 | 4.10 | 18948.9 | Run of River | 56.4 | 4.45 | 114.4 | 210.0 | 85.0 | | 5.0 | 30.0 | | | | 0 | 4300 | 220 | 10 | 44% | 50% | 18.94 | 953 | Penablanca Protected Landscape and Seascape | | | 8.6% | 4.6% | 0.92 | Done |
| 225 | Luzon | Natulud No.2 | 3.20 | 23997.7 | Run of River | 323.5 | 10.55 | 38.1 | 110.0 | 63.0 | | 5.0 | 74.0 | | | | 6370 | 0 | 130 | 10 | 71% | 81% | 18.64 | 4200 | Penablanca Protected Landscape and Seascape | | 1.0 | 11.8% | 7.9% | 0.72 | Done |
| 226 | Luzon | Pered No.1 | 2.10 | 10714.1 | Run of River | 57.5 | 3.94 | 67.6 | 215.0 | 138.0 | | 10.0 | 30.0 | | | | 3050 | 0 | 260 | 10 | 48% | 55% | 13.76 | 11000 | Penablanca Protected Landscape and Seascape | | | 4.6% | 1.5% | 1.21 | Done |
| 227 | Luzon | Pered No.2 | 2.60 | 13614.6 | Run of River | 75.3 | 4.99 | 65.5 | 180.0 | 105.0 | | 10.0 | 60.0 | | | | 3350 | 0 | 190 | 10 | 48% | 57% | 14.93 | 7000 | Penablanca Protected Landscape and Seascape | | | 6.8% | 3.4% | 1.02 | |
| 228 | Luzon | Pered No.3 | 4.40 | 16541.4 | Pondage | 137.2 | 14.37 | 37.4 | 95.0 | 50.0 | Rock Fill | 45.0 | 180.0 | 95.0 | 44895000 | 15486112 | 7420 | 0 | 130 | 10 | 35% | 41% | 50.35 | 640 | | | 1.0 | -7.8% | -10.2% | 2.77 | |
| 229 | Luzon | Immurung | 4.10 | 12000.8 | Run of River | 23.3 | 3.65 | 136.5 | 245.0 | 100.0 | | 5.0 | 25.0 | | | | 2050 | 0 | 370 | 30 | 29% | 32% | 11.96 | 0 | | | | 10.5% | 5.8% | 0.92 | Done |

# Appendix-4 List of the Specifications of 252 Sites

| ID | Island | Point | Max Output (MW) | Annual Energy Generation (MWh) | Type | Catchment Area ($Km^2$) | Max Power Discharge ($m^2/s$) | Effective Head (m) | Water Level (m) | | Dam | | | Reservoir | | | Headrace (m) | | Penstock (m) | Tailrace (m) | Capacity | | Construction Cost (MUSD) | Road Extension (m) | Socio Environmental Assessment | | | EIRR (30 Year) | FIRR (30 Year) | Unit Cost /kWh ($) | Site Reconnaissance |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Intake | Tailrace | Type | Height (m) | Crest Length (m) | High Water Level (m) | Total Reservoir Volume ($m^3$) | Effective Volume ($m^3$) | Open Channel | Tunnel | | | River Water (%) | Facility (%) | | | Protected Area | Volcano | Residence | | | | |
| 230 | Luzon | Paranan-L | 1.00 | 4640.4 | Run of River | 42.0 | 3.90 | 33.4 | 200.0 | 160.0 | | 10.0 | 67.0 | | | | 7020 | 0 | 70 | 10 | 38% | 50% | 12.17 | 500 | | | | -5.2% | -7.4% | 2.40 | |
| 231 | Luzon | Paranan | 1.20 | 5703.2 | Run of River | 40.3 | 3.48 | 44.2 | 180.0 | 125.0 | | 10.0 | 53.0 | | | | 5400 | 0 | 120 | 10 | 40% | 52% | 13.68 | 1750 | | Cagua | | -3.8% | -6.1% | 2.20 | |
| 232 | Luzon | Taboan No.1 | 3.10 | 17195.3 | Run of River | 84.7 | 5.05 | 75.8 | 165.0 | 80.0 | | 20.0 | 75.0 | | | | 0 | 3190 | 140 | 10 | 52% | 60% | 21.39 | 8500 | | Cagua | | 4.9% | 1.8% | 1.15 | |
| 233 | Luzon | Taboan - R | 1.60 | 7084.9 | Run of River | 13.6 | 1.15 | 177.5 | 260.0 | 75.0 | | 10.0 | 27.0 | | | | 600 | 0 | 360 | 10 | 42% | 48% | 7.53 | 3500 | | | | 7.8% | 3.8% | 0.99 | Canceled |
| 234 | Luzon | Twin Peaks | 7.00 | 30770.6 | Run of River | 70.0 | 5.93 | 145.0 | 180.0 | 20.0 | | 10.0 | 53.0 | | | | 8500 | 0 | 260 | 10 | 42% | 48% | 26.07 | 7250 | | | | 11.8% | 7.0% | 0.78 | Canceled |
| 235 | Luzon | Taboan No.2 | 2.30 | 12088.9 | Reserovir | 313.0 | 20.28 | 14.3 | 25.0 | 5.0 | Concrete | 15.0 | 150.0 | 25.0 | 41266250 | 20633125 | 0 | 0 | 40 | 30 | 49% | 57% | 19.90 | 9000 | | | | 1.2% | -1.4% | 1.53 | Done |
| 236 | Luzon | Hang | 1.60 | 8699.8 | Run of River | 57.1 | 3.33 | 60.7 | 100.0 | 30.0 | | 40.0 | 300.0 | | | | 2780 | 0 | 320 | 30 | 53% | 59% | 37.97 | 3000 | Penablanca Protected Landscape and Seascape | | 1.0 | - | - | 3.98 | |
| 237 | Luzon | Lobod | 0.48 | 2198.6 | Run of River | 50.8 | 4.71 | 13.1 | 40.0 | 20.0 | | 10.0 | 150.0 | | | | 1030 | 0 | 250 | 100 | 38% | 50% | 12.02 | 0 | Penablanca Protected Landscape and Seascape | | 1.0 | - | - | 4.98 | |
| 238 | Luzon | Dikatayan | 9.20 | 41308.7 | Reserovir | 220.0 | 18.08 | 62.0 | 121.0 | 53.0 | Rock Fill | 70.0 | 180.0 | 75.0 | 124951667 | 24935663 | 0 | 0 | 120 | 50 | 43% | 49% | 62.69 | 2700 | | | | 2.5% | -0.4% | 1.38 | Done |
| 239 | Luzon | Dilacnadanom | 2.70 | 10190.2 | Run of River | 34.0 | 3.56 | 94.0 | 120.0 | 15.0 | | 10.0 | 53.0 | | | | 4750 | 4786 | 200 | 10 | 35% | 41% | 26.64 | 10000 | Nothern Sierra Madre Natural | | | -4.9% | -7.4% | 2.41 | |
| 240 | Luzon | Pinacanauan No.1 | 3.30 | 17205.7 | Run of River | 69.1 | 4.58 | 89.8 | 300.0 | 200.0 | | 10.0 | 67.0 | | | | 0 | 4090 | 180 | 10 | 48% | 57% | 24.31 | 26000 | Nothern Sierra Madre Natural | | | 3.2% | 0.4% | 1.34 | |
| 241 | Luzon | Pinacanauan No.2 | 1.10 | 4797.2 | Run of River | 20.0 | 1.93 | 71.4 | 200.0 | 120.0 | | 10.0 | 33.0 | | | | 12500 | 0 | 190 | 10 | 37% | 47% | 32.52 | 25000 | Nothern Sierra Madre Natural | | | - | - | 6.34 | |
| 242 | Luzon | Palanan No.1 | 8.90 | 34229.9 | Run of River | 50.4 | 5.17 | 208.8 | 400.0 | 180.0 | | 10.0 | 60.0 | | | | 0 | 3200 | 580 | 10 | 35% | 42% | 27.14 | 16000 | Nothern Sierra Madre Natural | | | 13.9% | 8.0% | 0.74 | |
| 243 | Luzon | Palanan No.2 | 2.30 | 13047.2 | Run of River | 100.4 | 5.99 | 48.9 | 180.0 | 120.0 | | 10.0 | 40.0 | | | | 3000 | 100 | 70 | 2310 | 52% | 62% | 19.82 | 20000 | Nothern Sierra Madre Natural | | | 2.2% | -0.5% | 1.44 | |
| 244 | Luzon | Palanan No.3 | 15.20 | 68391.0 | Reserovir | 347.2 | 28.63 | 64.0 | 115.0 | 45.0 | Rock Fill | 75.0 | 320.0 | 115.0 | 323287500 | 44299312 | 0 | 0 | 140 | 30 | 42% | 49% | 108.58 | 27500 | Nothern Sierra Madre Natural | | 1.0 | 1.9% | -1.0% | 1.46 | |
| 245 | Luzon | Palanan No.4 | 0.93 | 4924.2 | Run of River | 356.6 | 24.80 | 4.8 | 40.0 | 30.0 | Concrete | 10.0 | 100.0 | 40.0 | 12127500 | 21760128 | 0 | 0 | 50 | 30 | 47% | 57% | 26.25 | 28000 | Nothern Sierra Madre Natural | | | - | - | 5.04 | |
| 246 | Luzon | Palanan - L | 2.40 | 9292.3 | Run of River | 40.2 | 4.22 | 72.5 | 100.0 | 20.0 | | 10.0 | 33.0 | | | | 0 | 4800 | 210 | 10 | 35% | 42% | 21.55 | 7000 | Nothern Sierra Madre Natural | | | -3.0% | -5.6% | 2.14 | |
| 247 | Luzon | Dibebinan | 1.20 | 6278.6 | Run of River | 51.5 | 3.41 | 44.9 | 100.0 | 45.0 | | 10.0 | 53.0 | | | | 4150 | 0 | 120 | 10 | 48% | 57% | 13.32 | 7000 | Nothern Sierra Madre Natural | | | -2.1% | -4.4% | 1.97 | |
| 248 | Luzon | Dimatatno No.1 | 8.30 | 34244.7 | Run of River | 57.3 | 5.32 | 189.2 | 380.0 | 180.0 | | 10.0 | 33.0 | | | | 0 | 6630 | 320 | 10 | 38% | 45% | 34.63 | 16500 | Nothern Sierra Madre Natural | | | 8.7% | 4.6% | 0.94 | |
| 249 | Luzon | Dimatatno No.2 | 7.00 | 35601.2 | Run of River | 82.4 | 5.59 | 152.0 | 180.0 | 15.0 | | 10.0 | 80.0 | | | | 0 | 6020 | 360 | 30 | 48% | 55% | 33.85 | 23000 | Nothern Sierra Madre Natural | | | 9.2% | 5.3% | 0.89 | |
| 250 | Luzon | Dinapique | 1.60 | 8287.3 | Run of River | 56.5 | 3.83 | 53.3 | 120.0 | 60.0 | | 10.0 | 80.0 | | | | 4020 | 650 | 170 | 10 | 48% | 56% | 15.33 | 2500 | | | | -0.3% | -2.7% | 1.70 | |
| 251 | Luzon | Amro | 0.95 | 4002.0 | Run of River | 27.5 | 2.88 | 42.1 | 100.0 | 50.0 | | 10.0 | 80.0 | | | | 3670 | 2520 | 110 | 10 | 35% | 46% | 23.74 | 28000 | Pinamaca | | | - | - | 5.63 | |
| 252 | Luzon | Dilalongan | 1.10 | 5117.8 | Run of River | 26.7 | 2.48 | 57.9 | 220.0 | 155.0 | | 10.0 | 10.0 | | | | 1350 | 0 | 210 | 10 | 38% | 50% | 9.19 | 2750 | | | | 0.3% | -2.4% | 1.66 | |