



Republic of the Philippines  
**PHILIPPINE MINING  
DEVELOPMENT CORPORATION**  
*Creating Wealth. Enriching Lives.*



*in partnership with*  
**pacominco**  
Paraiso Consolidated Mining Corporation

# Project Description Report

# DIWALWAL GOLD MINING PROJECT



**GALERIO ENVIRONMENTAL CONSULTANCY**

2019

## Table of Contents

1. Basic Project Information .....	2
1.1. Project Information .....	2
1.2. Proponent Profile .....	2
2. Project Description .....	3
2.1. Project Location and Area .....	3
2.1.1. 729 Victory Mineral Exploration .....	3
2.1.2. Mabatás Processing Site and Tailings Storage Facility .....	3
2.1.3. Diwalwal Special Economic Zone and Jewelry Park .....	5
2.2. Project Rationale .....	7
2.3. Project Alternatives .....	7
2.4. Project Component List .....	8
2.5. Project Phases, Key Environmental Aspects, Wastes, Issues, Built-in Measures .....	8
2.6. Manpower Requirements .....	11
2.7. Project Cost and Duration .....	11
Annexes .....	12
Annex 1. Minutes of IEC .....	12
Annex 2. Photo Documentation .....	18
Annex 3. Attendance of IEC and FGD .....	22
Annex 4. Project Site .....	28
Annex 5. Socio-Economic and Perception Survey on Diwalwal Mining Project .....	31
Annex 6. List of Invitees .....	64
Annex 7. Draft Invitation Letter .....	65
Annex 8. Draft Presentation for Public Scoping .....	66
References .....	78

## 1. Basic Project Information

Philippine Mining Development Corporation (PMDC) together with Paraiso Consolidated Mining Corporation (PACOMINCO) have partnered to endeavor to mine within the Diwalwal Mineral Reservation Area under a Joint Operating Agreement (JOA). This time though, the project be a significantly smaller footprint compared to the coverage of the Environment Clearance Certificate (ECC) issued in the past.

The proposed project coverage this time is only a total of 2,020 hectares within the 8,100 hectares Diwalwal Mineral Reservation Area. The area includes spaces for tailings storage and processing facilities. Activities to be conducted in the area are: the construction of access roads, base camps, administrative and field offices, construction of Mabatas Tailings Disposal Facility and related structure, construction of mineral processing plant, and mine development and production of 600masl and below within the area.

As a background, there were two ECCs issued in the past for the Diwalwal Gold Mining Project, one in CY 2001 and the other in CY 2005. Those ECC covered underground mining and development with an estimated production of 2,000 metric tons per day and tailings capacity of 4 million cubic meters. However, the ECC was invalidated because the project was not implemented for more than five years.

Since a new ECC is required for this new project, the company has commissioned the Galerio Environmental Consultancy (GEC) to conduct the Environmental Impact Assessment in the barangays where the project will be implemented. These Barangays are: Upper Ulip and Mt. Diwata located in the Municipality of Monkayo, Compostela Valley Province.

### 1.1. Project Information

Name of Project	Diwalwal Gold Mining Project
Location	Barangay Mt. Diwata and Barangay Upper Ulip, Monkayo, Compostela Valley Province
Nature of Project	Mining Category A: Environmentally Critical Project
Project Size	2,000 metric tons per day (MTPD)
	2,020-hectare Mineral Reservation Area

### 1.2. Proponent Profile

Proponent Name	Philippine Mining Development Corporation (PMDC)
Address	Room No: 27, GRDC Building, Km.7 J.P. Laurel Ave, Lanang, Davao City, 8000 Davao del Sur
Authorized Signatory/Representative to apply for ECC	Atty. Alberto B. Sipaco Jr.
Contact details	(082) 235 8671

## 2. Project Description

### 2.1. Project Location and Area

PMDC is tasked to administer the mining and mineral processing operations in the 8,100-hectare Diwalwal Mineral Reservation Area (DMRA) which lies within the geographical coordinates 7°46'00" to 7°51'00"N latitudes and 126°8'00" to 126°13'. It is located in the northeastern part of Compostela Valley Province, about 23 kilometers from the Municipality of Monkayo and about 150 kilometers from Davao City which takes three hours and seventeen minutes travel via Pan-Philippine Highway/AH26. Access to the project area is chiefly by land vehicles; commonly trucks, heavy equipment vehicles, motorcycles and SUVs.

For development and mining activities during Phase 1, PMDC shall utilize about 2,020 hectares of the 8,100-hectare DMRA. Projects established within this perimeter are the 729 Victory Mineral Exploration, Mabatatas Processing Zone and Diwalwal Special Economic Zone (Refer to **Figure 1**).

**Table 1** below shows the geographic coordinates of the projects' locations. Descriptions on the projects' location are discussed in the following sub-sections.

Table 1. Geographic Coordinates

Project Name	Coordinates	
	Latitude	Longitude
729 Victory Mineral Exploration (below 600 masl)	7.820000°	126.190000°
Mabatatas Ore Processing Zone	7.810000°	126.160000°
Diwalwal Special Economic Zone	7.810000°	126.170000°

#### 2.1.1. 729 Victory Mineral Exploration

Extraction of mineral deposits shall take place at 729 Victory Mineral Exploration area with a total of 729 hectares. Mine development and production are focused at 600 masl and below in Barangay Mt. Diwata, Monkayo, Compostela Valley Province. Paraiso Consolidated Mining Corporation or Pacominco has a Joint Operating Agreement (JOA) with PMDC and has given the right to explore, develop, utilize and process the mineral resources in the project area.

The mining extraction in Diwalwal was focused on the two major vein systems: Buenas-Tinago and Balite Veins. Aside from the two major veins, PMDC identified several prospective grounds for epithermal gold and copper mineralization through geological and geochemical survey undertaken until year 2006. The identified prospective areas are Upper Ulip/Matangad copper prospect, Mabatatas-Malinao copper-gold prospect and Manipak-Tagbanao gold prospect.

#### 2.1.2. Mabatatas Processing Site and Tailings Storage Facility

The site of the Mabatatas Processing and Tailing Storage Facility is within the 2,020-hectare mining and development area of DMRA at Barangay Upper Ulip, Monkayo, Compostela Valley Province. Carbon-in-pulp (CIP) plants as well as existing ball mills which are relocated at Mabatatas Processing Zone contains an area of about 20 hectares as shown in **Figures 2 and 3**.

Moreover, the Mabatatas Tailings Storage reservoir covers an area of about 41 hectares when water level of the dam reaches elevation of 525masl (a closer look at Mabatatas Processing Zone is presented in **Figure 3**).



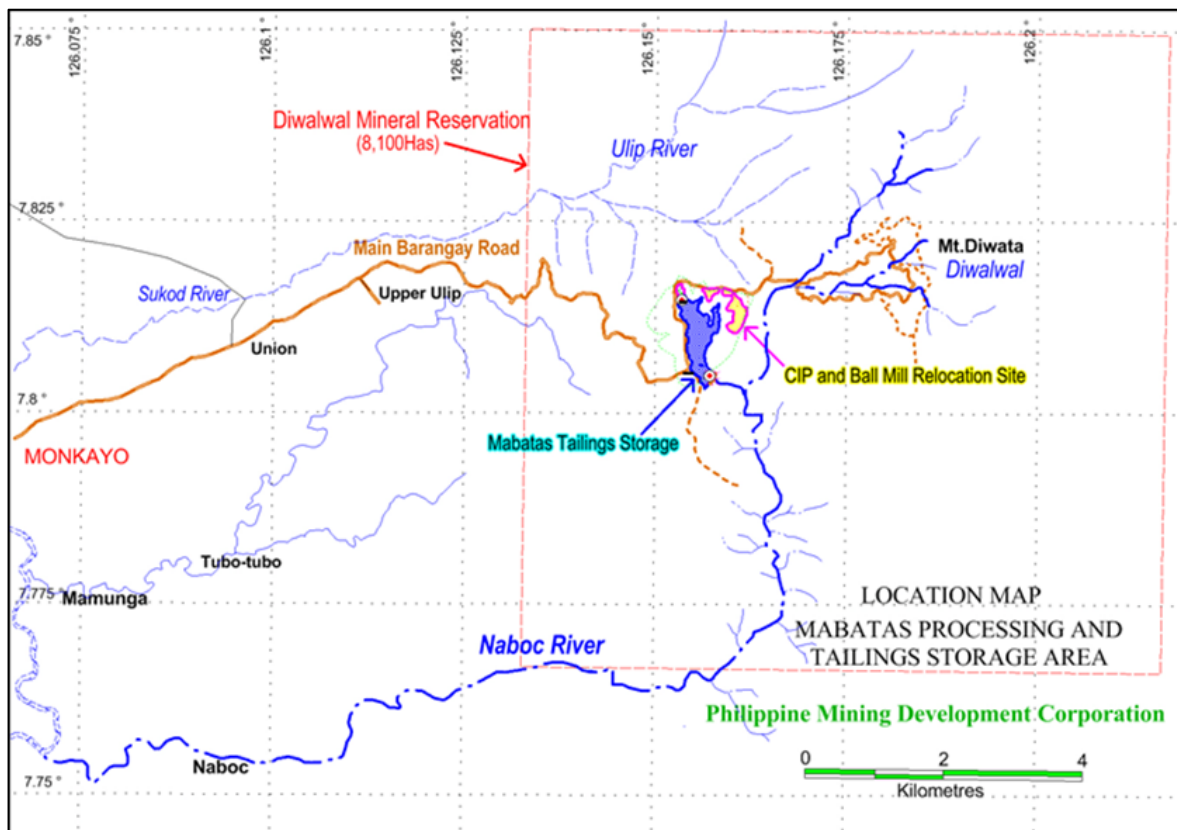


Figure 1. Location map of the Mabatas Processing and Tailings Storage Area (Source: PMDC)

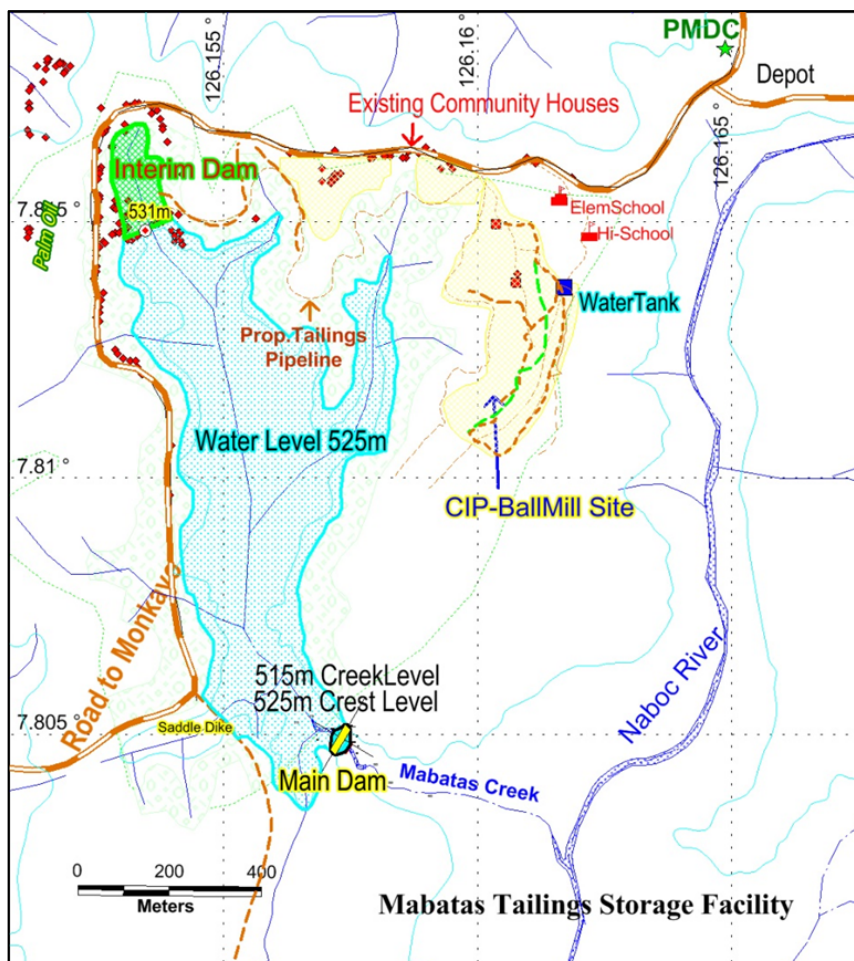


Figure 2. Location map and development plan of the Mabatas tailings storage facility (Source: PMDC)

### 2.1.3. Diwalwal Special Economic Zone and Jewelry Park

Economic zones are promoted by local, regional and national governments as strategies to foster economic growth and to improve a location's competitiveness. The Diwalwal Special Economic Zone project intends to create an integrated complex with important value-adding activities. It will serve as a trigger for other economic activities to thrive in the area.

Tagbanao Area, Sitio Depot, Barangay Upper Ulip, Monkayo, Compostela Valley Province has been sighted for the 300-hectare mixed-used development project of Diwalwal Special Economic Zone. This type of ecozone is the first of its kind that will be promoted by PMDC in partnership with Philippine Economic Zone Authority (PEZA). The development shall include; gold processing and refinery, jewelry manufacturing facility, jewelry park, and tourism facilities.

Owing to the large mineral reserves of Diwalwal, it provides an ideal location to setup a mineral processing zone that helps to foster economic growth and to improve Diwalwal's competitiveness. The establishment of the Diwalwal Special Economic Zone and Jewelry Park aims to address the following sustainable development goals as well as issues and concerns:

#### **ECONOMIC**

- 1) Increase mining-related investments and generate more revenues for the government;
- 2) Consolidation of all mineral processing activities including manufacturing of jewelry, electronics, etc. as well as improve monitoring of gold trading;
- 3) Installation of more advanced mining technologies to increase gold recovery;
- 4) Promote and encourage value-adding activities;
- 5) Improve skills in mineral processing and jewelry making; and
- 6) Increase economic benefits and generate employment especially to the IPs and women in the mining communities.

#### **ENVIRONMENTAL**

- 1) Establishment of more efficient and state-of-the art equipment and methods in mineral processing to ensure environmental integrity and compliance to global standards on responsible mining;
- 2) Mitigate environmental degradation caused by crude practices of artisanal mining; and
- 3) Improve biodiversity and ensure a healthy ecosystem in the area.

#### **HEALTH AND SAFETY**

- 1) Provide a clean, safe, healthy and sustainably-managed working environment for mine workers, laborers and support workforce;
- 2) Address health hazards and reduce the occurrence of mercury and cyanide poisoning;
- 3) Promote health and safety standards in the workplace.

#### **INFRASTRUCTURE AND LAND USE**

- 1) Achieve physical integration with quality and well-planned infrastructure facilities and rationalized land use; and
- 2) Introduce physical development, proper master planning and land use to enhance productivity through mixed-use development.

#### **TECHNOLOGICAL**

- 1) Employment of state-of-the-art and world-class technology in gold processing and refinery, and jewelry manufacturing; and
- 2) Introduce innovative solutions and systems to ensure quality output and optimization of available resources.

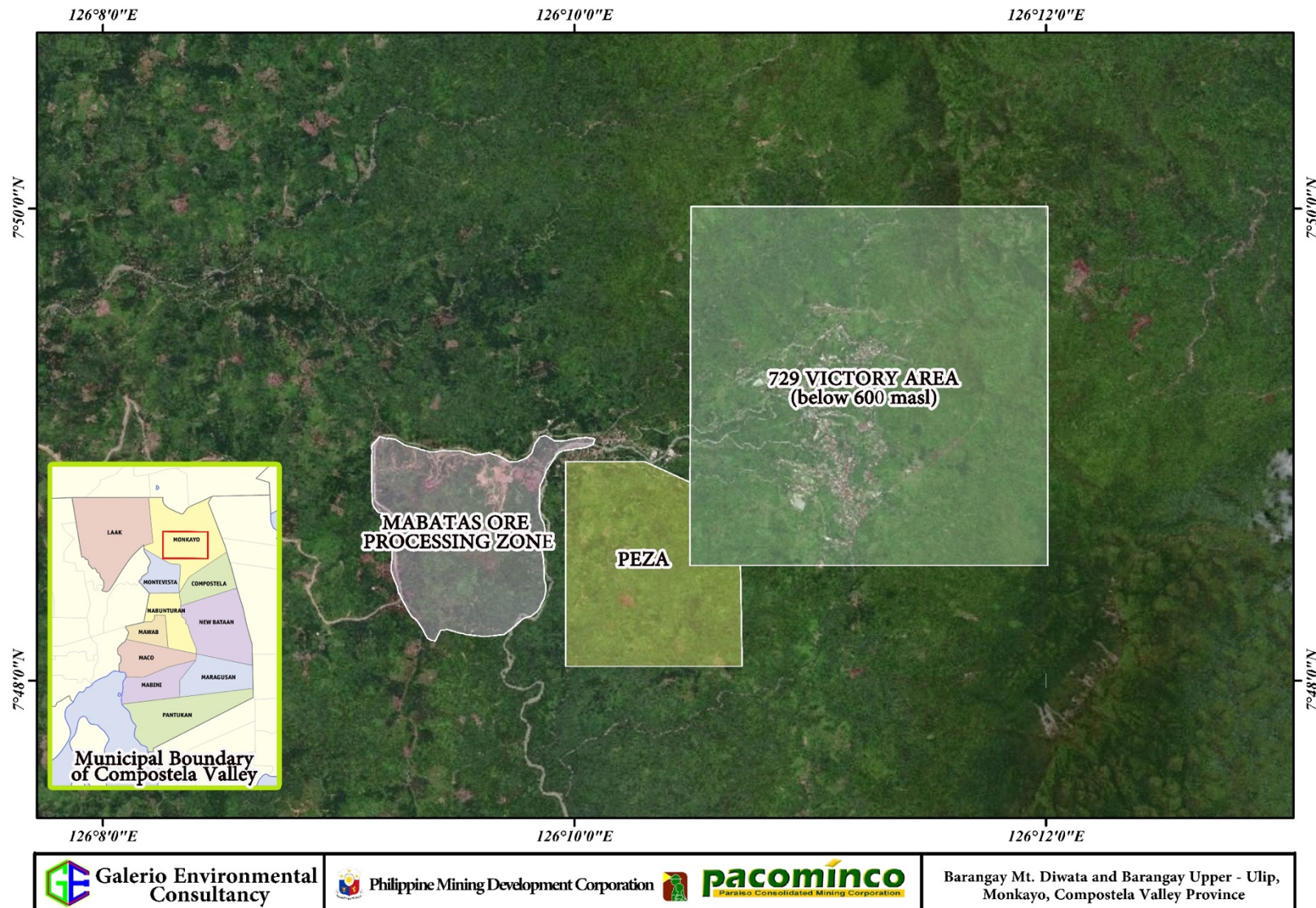


Figure 3. Project Location



## **2.2. Project Rationale**

The Diwalwal Mineral Reservation covers a total land area of 8,100 hectares. During the first phase of the project, only 2,020 hectares out of the 8,100 hectares will be developed. The proposed Diwalwal Gold Mining Project is owned and managed by Philippine Mining Development Corporation (PMDC), a corporation wholly-owned and controlled by the government. PMDC spearheads for responsible mining throughout the country by utilizing best practices and technologies available. To serve as the government's arm in generating revenue and to develop progressive communities through responsible mining is the mission of PMDC. In this project, PMDC ventured with Pacominco through an agreement to develop the Diwalwal Mining area.

The proposed gold mining project shall proceed with the operation phase. The Feasibility Study of the Diwalwal Gold Project was completed on May 2007 and had reported a gold resource of approximately 7.266 million tons with grade of 6.59gAu/t. This process extracts commercially viable concentrations of ore/mineral deposits in 729 Victory Mineral Exploration Zone (below elevation 600 masl).

As part of the project proposal, the municipality of Monkayo, specifically the host community, can get enough revenue based on the sales and taxes generated from the Diwalwal Special Economic Zone Area. Two percent (2%) of the Gross Income Tax (GIT) remitted by the PEZA will be directly given to the host city/municipality while three percent (3%) goes to the national government. The taxes will be used for the development of the area and maintain its orderliness. Moreover, this special economic zone offers static and dynamic economic benefits. It aims to foster the government's policy on sustainable mineral development and promote value adding activities as it addresses the economic, environmental, health and safety issues and concerns as well as the infrastructure needs of the area.

Appropriate government interventions like the construction of gold processing plant and refinery will contain the illegal flow of minerals eventually minimizing large-scale mineral theft and smuggling of gold from the gold-rush site. In recent decades, the volume of gold purchased from miners operating in the Diwalwal area has practically been nil. Under stringent security arrangements, the plan can efficiently fill in the actual demand for gold in the local market.

Another facility that will be built for this project is the Mabatás Ore Processing Zone which aims to maintain the cleanliness of the area after the ore is processed. In addition, the construction of Tailing Storage Facility prevents surface and groundwater contamination from the hazardous wastewater which may cause serious impact on human health.

## **2.3. Project Alternatives**

When the project becomes operational, the economic minerals produced from the Mabatás Ore Processing Zone will be sold and increase economic activities within the affected community. Without the project, the area will still be used for small-scale mining.

### **Project Category**

The proposed mining project is an Environmental Critical Project (ECP) under category A as declared through Proclamation No. 2146 (1981) and Proclamation No. 803 (1996) within the scope of the EIS System. The project is described as an ECP since mining is considered as a resource extractive industry.

### **Siting/Location**

There is no alternative siting of the project and its supporting facilities, however, there is an alternative plan to incorporate a Philippine Economic Zone Area (PEZA) called the Diwalwal Special Economic Zone. This establishment designed for manufacturing industries related with gold processing will attract other investments for local development. Industries like jewelry making within Diwalwal Mineral Reservation Area (DMRA) will generate additional employment and economic activities to the host community.

## Process/Technology

The alternative technology being considered by the PMDC is the Efficient and New Gold Processing Plant Operation which involves a large equipment for economy and optimum gold recovery. The project will also develop new design to optimize recycling of toxic chemicals in order to minimize waste and reduce operating cost to process low grade gold bearing veins. Engineering design in tailings storage facility will be adopted for possible zero effluent and pollution.

## Resource Utilization

There are no alternative sources of power, water and raw materials for the project construction and operation.

## 2.4. Project Component List

The Diwalwal Gold Mining Project shall consist of the following project components. Its total area covered is shown in **Table 2**.

Table 2. Project Components

Project Components	Area/Capacity	Unit
Tailings Storage Facility	41	hectares
	4,000,000	cubic meters
CIP-Ball Mill Relocation Site	20	hectares
Diwalwal Special Economic Zone (PEZA)	300	hectares
729 Victory Mineral Reservation	784	hectares
Gold Processing Plant	27	hectares
	2,000	metric tons per day
Water tank	64	cubic meters

## 2.5. Project Phases, Key Environmental Aspects, Wastes, Issues, Built-in Measures

Presented in this section are the project phases and their associated key environmental impact on the four modules of EIA (*Land, Water, Air and People*) and their mitigating measures to lessen, if not prevented, the possible impact driven by the project.

Table 3. Summary of Key Environmental Impacts and Mitigating Measures

Project Phases	Key Environmental Aspects/Activities	Nature of Emission/Effluent & Key Environmental and Social Issues	Built-in Management Measures
<b>PRE-CONSTRUCTION</b>			
Project Design	Detailed engineering design	Susceptibility of structures to natural hazards	<ul style="list-style-type: none"> <li>Design and construct structures based on the results of geologic survey, geohazard and geotechnical investigation.</li> </ul>
People	Community and project relations which may cause hindrance to project implementation.	Violation of Indigenous Peoples Rights	<ul style="list-style-type: none"> <li>Securing of approval/necessary permits and endorsement from the Local Government Unit and other government</li> </ul>

Project Phases	Key Environmental Aspects/Activities	Nature of Emission/Effluent & Key Environmental and Social Issues	Built-in Management Measures
			agencies, namely: DENR, EMB, MGB, DPWH, DTI, and Mindanao Development Authority prior to implementation of the project.
<b>CONSTRUCTION</b>			
Land	Excavation of main foundation areas for consolidating and backfilling.	Change of topography	<ul style="list-style-type: none"> <li>Stabilize the slope to prevent soil erosion.</li> <li>Appropriate engineering measures.</li> </ul>
	Removal/loss of trees and other vegetation	Site clearing	<ul style="list-style-type: none"> <li>Retain if there are century-old trees to serve as nesting ground and habitat of birds.</li> <li>Secure permit from PCA and DENR for coconut and other tree species to be cut.</li> </ul>
	Fauna ecology	Loss of wildlife species	<ul style="list-style-type: none"> <li>Gradual clearing of the site to allow time for wildlife animals to transfer.</li> </ul>
	Solid wastes generation	Construction debris, scrap metals	<ul style="list-style-type: none"> <li>Implementation of Solid Waste Management.</li> <li>Provision of trash bins in the construction site and regular hauling of wastes.</li> </ul>
	Soil contamination	Oil and grease from heavy equipment/vehicles	<ul style="list-style-type: none"> <li>Training personnel in proper handling of oil/lubricants.</li> <li>Installing oil and grease separator.</li> <li>Provision of spill response kit.</li> </ul>
Air	Generation of dusts, particulate matter and gas emissions	<ul style="list-style-type: none"> <li>Earth moving activities (i.e., land clearing, ground excavation and cut and fill operations)</li> <li>Use of generator set</li> <li>Stockpiling of dusty materials</li> </ul>	<ul style="list-style-type: none"> <li>Dust management by spraying water to minimize airborne dusts during and immediately after the operation.</li> <li>Any stockpile of dusty materials should either be covered or sprayed with water.</li> </ul>
	Noise pollution	Noise generated during construction works and heavy equipment operation.	<ul style="list-style-type: none"> <li>Heavy equipment must have mufflers and silencer.</li> <li>Limiting the construction time to a given standard hours.</li> </ul>



Project Phases	Key Environmental Aspects/Activities	Nature of Emission/Effluent & Key Environmental and Social Issues	Built-in Management Measures
			<ul style="list-style-type: none"> <li>Provision of vegetative environmental buffers.</li> </ul>
Water	Changes in water quality	<ul style="list-style-type: none"> <li>Spills from improper handling and transport</li> <li>Possible contamination from tailing storage facility.</li> </ul>	<ul style="list-style-type: none"> <li>Provision of hazardous waste storage, chemical storage and used oil &amp; lubricants storage.</li> <li>Appropriate engineering design and regular monitoring of surface and groundwater quality.</li> </ul>
People	In-migration	Local employment opportunities	<ul style="list-style-type: none"> <li>Prioritizing the local community for those who are qualified for the job (labor, mason etc.)</li> </ul>
<b>OPERATION</b>			
Land	Soil erosion/ increased siltation	Soil movement from rain events	<ul style="list-style-type: none"> <li>Silt management by utilizing gabions, silt fences and sediment traps with geotextile.</li> <li>Erosion and siltation control by planting various plant species along slopes of mined-out areas.</li> </ul>
Water	Water quality	Discharge of domestic wastes Mercury and other heavy metal accumulation in surface and groundwater near the tailings storage facility.	<ul style="list-style-type: none"> <li>Installation of septic tank.</li> <li>Regular water quality monitoring.</li> </ul>
	Water competition	Possible shortage of water supply	<ul style="list-style-type: none"> <li>Setting up of deep well within the project site.</li> <li>Secure permit from NWRB.</li> <li>Recycling of water from mining and processing activities</li> </ul>
People	Community development	Employment and livelihood opportunities	<ul style="list-style-type: none"> <li>Contractor must adopt strict policy to source workforce from qualified locals.</li> </ul>
	Potential health and sanitation problem	Increase volume of sewage and may cause outbreak of disease	<ul style="list-style-type: none"> <li>Provision of temporary bunkhouses for construction workers and other sanitary facilities.</li> <li>Hire workers from the host community so that</li> </ul>

Project Phases	Key Environmental Aspects/Activities	Nature of Emission/Effluent & Key Environmental and Social Issues	Built-in Management Measures
			there will be no need to set up construction barracks or even temporary sanitary facilities.
<b>ABANDONMENT</b>			
Land	Accumulation of heavy metals in soils	Potential contamination	<ul style="list-style-type: none"> <li>Remediation by planting potential plant accumulators of heavy metals.</li> </ul>
	Degradation of vegetative cover	Clearing of land for commercial use	<ul style="list-style-type: none"> <li>Nursery production and reforestation.</li> </ul>

## 2.6. Manpower Requirements

During construction phase, job opportunities will be generated. PMDC will be needing skilled and non-skilled workers/laborers for the construction of facilities and buildings in Mabatas Ore Processing Zone and Diwalwal Special Economic Zone as long as they are capable to do the work. PMDC will also be looking for those who have technical expertise in the field of mining as well as in facility operation.

## 2.7. Project Cost and Duration

PMDC's estimated investment cost for the development of the economic zone is at Php 500 Million which shall include the preparation of the master development plan, site preparation and development, establishment of the important infrastructure, installation of utilities and construction of other facilities.

The whole project has a duration of six years and is expected to operate by year 2022.

**Table 4** below illustrates the timeframe of each of the project phases.

Table 4. Project Schedule

	2017	2018	2019	2020	2021	2022
<b>Mabatas Ore Processing Zone</b>						
Pre-construction						
Construction						
Operation						
<b>Diwalwal Special Economic Zone</b>						
Pre-construction						
Construction						
Operation						
<b>729 Victory Mineral Exploration</b>						
Pre-exploration						
Exploration						

## Annexes

## Annex 1. Minutes of IEC

**Project** : Diwalwal Gold Mining Project  
**Activity** : Information, Education Campaign  
**Location** : Barangay Session Hall, Mt. Diwata, Monkayo, Compostela Valley Province  
**Date & Time** : July 29, 2019 | 9:00 AM  
**Duration** : 1 hour

Issues Raised By	Issues / Concerns Raised	Response of the Proponents
Siglesia Sala Barangay Tanud	Is it true that there are people coming from Pacominco who will be exploring Pag-asa?	<b>Leo Dilla</b> Community Relation Officer  Pacominco works in partnership with PMDC, so you have nothing to worry if they are exploring the area.
Vicklyn Ibanez Purok 19 Chairman	Will the exploration in Diwalwal by the PMDC affect the 729 has? Will there be small scale minings to be conducted?	<b>Marlon Suelto</b> Geologist – GEC  Elevation above 600 masl was proclaimed as the “ <i>Minahang Bayan</i> ” below that will be under the jurisdiction of the PMDC. Therefore, no small scale miners will be affected by this exploration activity.
Sonny Ibanez Barangay Kagawad	I would like to thank PMDC for the courtesy call, informing us about Pacominco.  Let us support the programs given to us such as the IEC since this will benefit us. Their purpose is for the betterment of Barangay Mt. Diwata.  I would also like to ask the barangay to support those who want to help Barangay Mt. Diwata.	<b>Kirsten Balaod</b> –GEC staff  Thank you for your support.
Elisa Torres	Will the livelihood of the people in Mt. Diwata be affected by the project?	<b>Marlon Suelto</b> Geologist – GEC  The livelihood of the residents will not be affected by the project because PMDC will be exploring below 600 masl. The Operations above 600 masl will be maintained.  Regarding your question about work opportunities, those who

	Will the people be given a chance to work in PMDC?	<p>have experience will be given the priority.</p> <p><b>Kirsten Balaod</b> -GEC staff</p> <p>It is always the priority of the project to hire the locals. So those who have experience will be given the opportunity to work.</p>
Gilbert Sandiego Purok 21 Chairman	Will the people's mining operation be affected by the PMDC?	<p><b>Jimmy Bubusunda</b> Community Relations Officer</p> <p>Elevation above 600 masl was proclaimed as the "<i>Minahang Bayan</i>" below that will be under the jurisdiction of the PMDC. Therefore, no small scale miners will be affected by this exploration activity.</p> <p>The project will give benefit to the community by providing job opportunities.</p> <p><b>Kirsten Balaod</b> GEC Staff</p> <p>In the future, there will be job opportunities for the people. This will not be the last public consultation. Next time, we will still conduct public consultations together with the proponent and government agencies. Thank you all for coming today.</p>

**Project** : Diwalwal Gold Mining Project  
**Activity** : Information, Education Campaign  
**Location** : Tribal Hall, Barangay Upper Ulip, Monkayo, Compostela Valley Province  
**Date & Time** : July 29, 2019 | 1:30 PM  
**Duration** : 1 hour and 30 minutes

Issues Raised By	Issues / Concerns Raised	Response of the Proponents
Edgardo Sarucam Councilor of Upper Ulip	If the chemicals contaminate the water supply, will we be safe?	<p><b>Marlon Suelto</b> Geologist – GEC</p> <p>The soil type in Mabatas Ore Processing Zone is clay where water cannot penetrate.</p> <p>We also have to look into the layers of the soil if it is connected to the source of water. If it is not connected to the origin then it is safe.</p> <p><b>Robeen Gerodiaz</b></p>

	If it is not safe, can we find a different source for our water supply?	<p>GEC Staff</p> <p>Yes, we will conduct water sampling so we will know if the water is contaminated or if it is still safe. Once we have laboratory results, the affected barangays will be informed. If there are potential effects there will be an environmental management plan so that we can find ways to mitigate the effects on water source.</p>
Cairus Francisco Lumad Tribe	If the current water source is affected, can the barangay request for drilling in our barrio?	<p><b>Ma. Teresa Gabaesin</b> Community Relations Officer</p> <p>There is an allotted time frame when the results will be released, so that we can come up with a decision to find another water source or transfer the tailings dam. There will be a meeting about the results and whether it is necessary to have a different water source. Be assured, you will be informed.</p>
Edgardo Sarucam Councilor of Upper Ulip	For now, contamination will not reach the water source so the result of the water sampling analysis might be negative.	<p><b>Kirsten Balaod</b> GEC Staff</p> <p>The water sampling analysis will serve as baseline environmental data. There will still be monitoring based on the conditions of the Environmental Compliance Certificate (ECC). There will be water quality monitoring every year to determine if the water is contaminated.</p>
Elvie Avera Barangay Health Worker and Tribal Councilor	If during the survey and fauna assessment on the proposed area for PEZA, endangered species are present, will the project still continue? I observed that in Baguio, the areas are elevated, and there are landslides. There are also lots of buildings. Can the land withstand the building structures?	<p><b>Robeen Gerodiaz</b> GEC Staff</p> <p>Endangered species are protected under Republic Act 9147 or the Wildlife Conservation and Protection Act.</p> <p>There are two types of seedlings, wildings and seedlings and in every one wildling cut down, there should be 100 trees planted as replacement. The location of planting must be coordinated with CENRO under the Memorandum Order No. 12 s. 2012 of the DENR.</p>

	The area is an ancestral domain. How can we be sure that it will not be destroyed?	At present, there is innovation in architecture where trees are incorporated in the design. Example in Davao City, 10% of the green spaces will be made either into a park, garden etc.).  Endangered species will be conserved in accordance with the law.
Neriza Fortaleza Barangay Secretary	If the sharing scheme of the municipality is 2%, what percent will be given to our barangay?  This is the first time that an IEC was conducted.  We just want to make sure that we will not get sick.	<b>Marlon Suelto</b> Geologist – GEC  The sharing scheme will be based on the agreement between the municipality and the barangay.  This IEC is conducted to ensure that your issues are heard. And, No, the project does not want anybody getting sick.
Alloereto Constosin Old Chairman - Upper Ulip	I am concerned about our environment. At present, drizzle will cause flooding. Without trees, there will be flooding.	<b>Marlon Suelto</b> Geologist – GEC  It doesn't mean that if an area is full of trees, it is not prone to landslide. There are other factors which cause landslide such as the slope stability, overload of surface and soil type. If the root of the trees do not hold on the bed rock, it will cause landslide since it overloads the surface. Flooding can also be caused by anthropogenic factors such as when the drainage cannot handle anymore the amount of water entering into the drainage system. Appropriate study must be done to identify land slide prone areas.  <b>Ma. Teresa Gabaesin</b> Community Relations Officer  Flooding is already a given. In the past, there was also mining, but no study was conducted. So now, that there will be a new mining project, we must look at the different policies about mining which should be followed for the protection of our environment.  There will also be an allotted budget for the environment wherein the remedies and



		<p>mitigation measures will be provided to reduce impacts on the environment. We should not worry about this because a study will be thoroughly conducted to ensure that your safety will not be compromised.</p> <p><b>Robeen Gerodiaz</b> GEC Staff</p> <p>In addition to what Ma'am Tes mentioned about environmental protection, Diwalwal special economic zone will have a tourism sector the same as in Bohol. This will not only give income, but will also create awareness on endangered species.</p>
Balbin Gubaton Tribal Chieftain	<p>Please give us a copy of the water quality results.</p> <p>Will there be a study conducted for the future PEZA?</p> <p><b>Information only</b> It is a challenge for us to create a PEZA which has the same concept as in Eden Nature Park in Davao City which was developed, but at the same time they still preserved the environment.</p>	<p><b>Robeen Gerodiaz</b> GEC Staff</p> <p>Yes this is noted, Thank you.</p> <p><b>Kirsten Balaod</b> GEC Staff</p> <p>Yes, the 4 aspects of the environment will be studied (land, water, air and people). Also, all areas affected by the project will be sampled. The PEZA, the Mabatás ore processing zone and the tailings dam will be included in the study.</p>
Elordie Ginawoay Triban Councilor - Upper Ulip	<p>Before, there was a mining company which did not give any shares or ores. For that reason, it is normal for the people to reactions negatively, but we believe that we should support the program of President Duterte to clean Naboc River.</p> <p>However, the transfer of the tailings dam will not be easily implemented because some do not agree with the project.</p> <p>Last week we went to PMDC to discuss about the income of the</p>	<p><b>Robeen Gerodiaz</b> GEC Staff</p> <p>Yes, this is noted, Thank you.</p>

	<p>tribe. We also consulted with the NCIP about collecting our share. They told us that MOA will be the basis for the share that will be received by the tribe.</p> <p>I would like to request that we support the project for the good of the tribe and those in Monkayo.</p> <p>As for PMDC, we would like to request that the directly impacted areas become the priority for job opportunities.</p>	
Ronel Balaug Barangay Councilor	I suggest that the ground be cemented so that there will be a barrier and walling to prevent erosion.	<p><b>Kirsten Balaod</b> GEC Staff</p> <p>The detailed engineering design will be conducted by the proponent. The DENR through the EMB will also give inputs as to the mitigation/prevention of environmental impact which include the results of the assessments as well as your concerns and suggestions for the project.</p>

Annex 2. Photo Documentation

Project : **Diwalwal Gold Mining Project**  
Activity : **Information Education Campaign & Focus Group Discussion**  
Date and Time : **July 29, 2019 | 9:00 AM**  
Location : **Barangay Session Hall, Barangay Mt. Diwata, Monkayo, Compostela Valley Province**



**Figure 4.** Discussion on Environmental Impact Assessment (EIA) Process to the residents by Robeen John A. Gerodiaz - a technical staff from Galerio Environmental Consultancy.



**Figure 5.** Marlon C. Suelto – a Geologist from Galerio Environmental Consultancy presenting the benefits of the Diwalwal Gold Mining project.



**Figure 6.** Vicklyn Ibañez a resident of Brgy. Mt. Diwata raising her concern if small scale miners might be affected by the operation of project.



**Figure 7.** Leo Dilla from Philippine Mining Development Corporation giving his response that PACOMINCO is in partnership with PMDC.



Project : **Diwalwal Gold Mining Project**  
Activity : **Information Education Campaign & Focus Group Discussion**  
Date and Time : **July 29, 2019 | 1:30 PM**  
Location : **Tribal Hall, Barangay Upper Ulip, Monkayo, Compostela Valley Province**



**Figure 8.** Environmental Impact Assessment Process discussed by Robeen John A. Gerodiaz from Galerio Environmental Consultancy.



**Figure 9.** Presentation of Mabatas Ore Processing Zone project by Marlon C. Suelto from Galerio Environmental Consultancy.



**Figure 10.** Aly Ravena - a Barangay Health Worker raising her concern on endangered species and whether it might be a hindrance to the implementation of the project.



**Figure 11.** Tribal Chieftain Balbin Gubaton expressing his support for the project.



## Annex 3. Attendance of IEC and FGD

Philippine Mining Development Corporation  
Information, Education and Communication Campaign  
Brgy. Mt. Diwata, Monkayo, Davao de Oro  
July 29, 2019/ 9:00 AM

Attendance

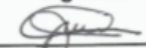
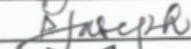
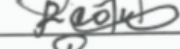


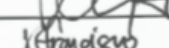
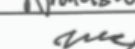
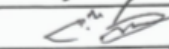




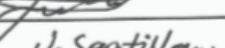
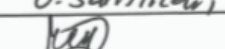
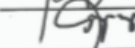
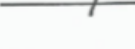
Name	Address	Contact no.	Signature
1. <i>Joshua de la Rosa</i>			
2. <i>Elia M. Jara</i>	P-7	09383673817	<i>E. J.</i>
3. <i>Carlota A. Lirio</i>	PI		<i>Carlota Lirio</i>
4. <i>Lucy V. Tagalog</i>	P-10		<i>[Signature]</i>
5. <i>GUERRA A. ABO-ABO</i>	P-6		<i>[Signature]</i>
6. <i>Paulita J. Brigole</i>	P-21	09099720654	<i>[Signature]</i>
7. <i>Felic G. Abo-Abo</i>	P-6	09072966245	<i>[Signature]</i>
8. <i>Juliana A. Estillone</i>	P-5		<i>[Signature]</i>
9. <i>Gerardo Quinones</i>	P-22		<i>[Signature]</i>
10. <i>Conchita Olvera</i>	P-9		<i>[Signature]</i>
11. <i>Antonio Belles</i>	P-24		<i>[Signature]</i>
12. <i>Armando Macelli</i>	P-2		<i>[Signature]</i>
13. <i>RAZAK B. USMAN</i>	Purok-1-f	09101443321	<i>[Signature]</i>
14. <i>Prado, Edith</i>	Purok-19		<i>[Signature]</i>
15. <i>Prado, Ar Grace</i>	P-16	09488678499	<i>[Signature]</i>
16. <i>Angelina Pardo</i>	P-14	0910 9377 226	<i>[Signature]</i>
17. <i>Beracan D. Sangcad</i>	P-5	09199173030	<i>[Signature]</i>

Name	Address	Contact No.	Signature
18. ANECITO Q. SALEM Sr.	P14 BRGY. MT. DIWATA	09309292577	
19. VICENTE S. Palida	P4-A	09395423010	
20. GILBERT R. SARDIDO	P-21 " "	09759616114	
21. PEPITO C. DIARUKIO	8-7 " "	09366411359	
22. CAA Catepusta	Potok 17		
23. CAA CASTRO	P-17		
24. CAA HILUA	P-17		
25. CAA Caunan	P17		
26. SGT BERNIE L. BANCES	P-17, TINAGO PB.	09369617677	
27. Janned- Amplicio N. Nala	P-19 pag-asa	09050748892	
28. SSG ABUENTE MDSSPS	PNP MT. DIWATA	09128100073	
29. Patrolman Michael Angelo Cayetano	PNP MT. DIWATA		
30. PAT. SULAMAN G. KASAN	PDP MT. DIWATA		
31. PAT. PHEDIAN DIVINAGRACIA	PDP MT. DIWATA		
32. JUANILLO C. SITOT	P1A MT. DIWATA		
33. FELIX OBGONITA	P1K22 MT. DIWATA		
34. CORTEZ EDIEITO	UNION MONKARO		
35. CASANO EDUARDO			
36. KRISTIN LOUISE D. ACUNOC	PMDC	09105326977	
37. Canda Jimmy	PDDC	09352428991	
38. Leo P. Dike	"	09768538556	

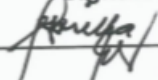

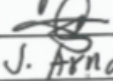
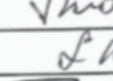
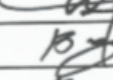
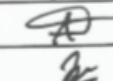
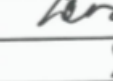

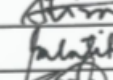


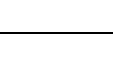


Name	Address	Contact No.	Signature
39. <u>Anabel Cafe</u>	<u>P-18 Mt. Diwata</u>	<u>09479261063</u>	<u>[Signature]</u>
40. <u>VERLYN C. REANES</u>	<u>P-19 Mt. Diwata</u>	<u>09067273871-</u>	<u>[Signature]</u>
41. <u>KISH CRISTY G. URSINAS</u>	<u>.</u>	<u>09104829498</u>	<u>[Signature]</u>
42. <u>GABRIEL V. DELICIA</u>	<u>1</u>		<u>[Signature]</u>
43. <u>Lini P. Pulina</u>			<u>[Signature]</u>
44. <u>Marilyn L. Rondal</u>	<u>P-4B Mt Diwata</u>	<u>09093392406</u>	<u>[Signature]</u>
45. <u>Hazeliza T. Narosa</u>	<u>P-0N0 Mt. Diwata</u>	<u>09107923613</u>	<u>[Signature]</u>
46. <u>DANNY N. PANARES</u>	<u>P-22</u>	<u>09757175022</u>	<u>[Signature]</u>
47. <u>Robert T. Fernandez</u>	<u>P-1A</u>	<u>09120255798</u>	<u>[Signature]</u>
48. <u>ANITA C. ARIZON</u>	<u>Mt. Diwata</u>	<u>09507678876</u>	<u>[Signature]</u>
49. <u>EMILIANO V. DAYOT JR.</u>	<u>do</u>		<u>[Signature]</u>
50. _____	_____	_____	_____
51. _____	_____	_____	_____
52. _____	_____	_____	_____
53. _____	_____	_____	_____
54. _____	_____	_____	_____
55. _____	_____	_____	_____
56. _____	_____	_____	_____
57. _____	_____	_____	_____
58. _____	_____	_____	_____
59. _____	_____	_____	_____



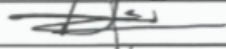



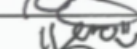

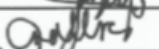
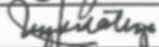


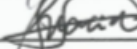


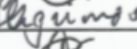



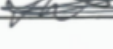

Philippine Mining Development Corporation  
Information, Education and Communication Campaign  
Brgy. Upper Ulip, Monkayo, Davao de Oro  
July 29, 2019/ 1:00 pM

Attendance

Name	Address	Contact no.	Signature
1. Josephine Cadungog	P1A upper ulip	09072051535	
2. Divina F. Lough	P1A upper ulip		
3. RUEL S. Botic SR	P-5 " "	09468800664	
4. Floridic M. Latiban	P-6 Depot "	09974009839	
5. CARLOS B. FRAN CIERO	P-2 UPPER ULIP	09001251179	
6. JUAN LONDES LATIBAN	P-1A UPPER ULIP		
7. ROEVA FRANCISCO	P-1A UPPER ULIP		
8. BILLY B. LATIBAN	P-2 UPPER ULIP	09099061203	
9. MARHON SERRANO	P1A "		
10. Gregorio M. Linaza	P-5		
11. Perlita Linaza	P-5		
12. Pablo Juangan	P-1A		
13. Alberto Onlosan	P-2		
14. ARIEL LATIBAN	P-2		
15. Juvy F. Santillan	P-2	09098031163	J. Santillan
16. ENGIN C. CADUNGO	P1A	09466002001	
17. EMANUEL A. CALA-QUAN	P5	09501202380	



	Name	Address	Contact No.	Signature
18.	Jose Lomilla	P-4		
19.	Enrie Avem	PL		
20.	Lolito Capao Jr.	P-9 San Jose		
21.	Wilfredo ALPIO Jr.	P-9 San Jose		
22.	Jayson P. Deniega	P. 8 San Jose		
23.	Jeriefor L. Arnado	P-2 Upper Ulip		J. Arnado
24.	Jocelyn E. Intang	P-2 "		
25.	Widesita Montillano	P-2 "		
26.	MANUEL FRANCISCO	P-1A "		
27.	ROVEL BAUBUG	CAA	CAA	
28.	Eloide Ginearay	CAA		
29.	Alfredo Lumanlan	CAA		
30.	NKATOR ARCILLA	CPA		
31.	DEVINA C. UPIKA	Intal		
32.	Tuina mapanao	Intal		
33.	DANTE P. BARBAROVA		CAA	
34.	DALBIN S. GURDON		0930 8212162	
35.	Arelina G. Jimbal	P1-A		
36.	LUZMINDA M. LATIBAN	P-5 matangad	09488058288	
37.	GILBERT P. LABRADOK	P-X		
38.	Lerna C. Aquilos	P-2	09453075543	

	Name	Address	Contact No.	Signature
39.	Mercy Polbos	P-2		
40.	Abigail B. Pasalo	P-1A	09072049450	
41.	EDGARDO R. SARUCAN	P-1A	09994118345	
42.	JEAN O. RAMOS	P-2	07161784761	
43.	Liamor B. Enungan	P-1A	09783921686	
44.	Fe Cornara E. Turaga	P-4 M.		
45.	ROQUE T. CLAU GONZALEZ	KS Upper Ulip	09465259537	
46.	Aien E. Natad	P-6	09262224990	
47.	Analan L. Samylo	P-1A Upper Ulip	09099219439	
48.	ERNA C. YAVUENAS	P-2, Upper Ulip	09655416971	
49.	NERIYA C. FORTALEZA	P-1A, Upper Ulip	09966963947	
50.	Hon. Fernando T. Latiban	P-7-A		
51.	Hon. Lydia L. Abayon	PIA		
52.	Hon. Josepa R. Francisco			
53.	Hon. Josecito S. Arcan			
54.	Hon. Crisanto C. Palamar			
55.	Susan P. Guzman	P-1-B, Chairperson	09122224112	
56.	Proceso E. Latiban	P-5		
57.	DOMINGA BANAD			
58.	RAYMOND B. ENOPRESA	P-2 UPPER ULIP	09075417606	
59.	Eduardo J. Mier	P-1-B upper ulip		



## Annex 4. Project Site



Figure 12. Mabatas Tailings Storage



Figure 13. On-going construction at Mabatas Processing Zone





Figure 14. Eastern portion of Mabatas Ore Processing Zone.



Figure 15. Western portion of Mabatas Ore Processing Zone.





Figure 16. Tributary of Naboc River showing whitish color of water.

## Annex 5. Socio-Economic and Perception Survey on Diwalwal Mining Project

### Objectives of the Socio-Economic and Perception Survey

The following are the objectives of the survey:

- To determine the socio-demographic profile of the respondents in the barangays which will be affected by the project. The socio-economic profile include the respondents' education, livelihood sources, land status, income and expenditures, housing infrastructure and assets, membership to government health and retirement systems, among others;
- To gauge the perception of the respondents and social acceptability of the project;
- To know their social, environmental, economic and political as well as institutional concerns about the project;
- To know their perception on the possible negative and positive impacts of the projects on their lives and the community; and
- To know developments they want to see once the project is implemented.

### Survey Methodology

The socio-economic and perception survey were conducted simultaneously. The result of the socio-economic survey specifically the data on respondents' profile are all needed as baseline information leading to the conduct and result of the perception survey.

The interviewers made a courtesy call to the Local Government Units (LGUs) of the place and ask permission that they will be allowed to conduct the survey. Letters were sent to the LGUs for the purpose.

### Research Locale

This survey covered two Barangays in Monkayo, Compostela Valley Province namely: Barangays Diwalwal and Upper Ulip.

### Questionnaire

A pre-designed survey questionnaire was prepared to gather data from the respondents coming from the randomly selected households of Barangays Upper Ulip and Diwalwal. The questionnaire was divided into two main parts: the socio-economic survey and the perception survey. The socio-economic survey includes household characteristics, respondents' profile, income and expenditures, land status, housing, infrastructures and movable assets, among others. Moreover, the perception survey about the project covered the respondents' various concerns, interest on public consultations and acceptance of the project.

To assess the reliability of the survey questionnaire, a pre-test to 20 respondents was conducted. Cronbach's alpha was used to measure reliability (Cronbach, 1951). According to Nunnally and Bernstein (1994), an alpha of at least 0.70 or higher is considered highly reliable. As a result, an alpha of 0.805 was attained which indicates that the survey questionnaire is reliable.

In terms of survey implementation, a pre-survey briefing was conducted with the survey teams created for the purpose. Prior to dispatch in their areas of assignment, they were thoroughly briefed to ensure understanding and uniform interpretation of items in the survey questionnaire.

Further, the team was instructed to ensure the respondents that the information gathered from them will be treated confidential.

### Population and Sampling

To provide a more precise estimates of the perception, a stratified random sampling was conducted. Moreover, sample size was computed based on Cochran (1963) sample formula with a desired level of precision 0.05, estimated proportion of 0.5, and confidence of 95% (Lohr, 1999).

$$n = \frac{n_0}{1 + \frac{n_0 - 1}{N}}$$

$$n_0 = \frac{z^2 p(1-p)}{e^2}$$

Where,

$n_0$  is Cochran's sample size recommendation;

$z$  is the z-value in standard normal distribution

$p$  is the estimated proportion of the population which has the attribute to the question

$e$  is the desired level of precision

$N$  is the population size;

$n$  is the new, adjusted sample size

From 3,431 recorded households in Barangay Upper Ulip and Diwalwal, a total of 346 was computed as the number of sample size for the survey. The sample size was proportionally allocated to provide an ample representation of all the barangays involved in the research.

$$n_{stratum} = \frac{N_{stratum}}{N_{pop'n}} \times n$$

Presented in **Table 1** is the allocation of sample in each barangay. Also, the number of responses in each barangay are presented.

**Table 1. Sample Size Allocation**

Barangays	Total Number of Households	Sample Size Allocation	Total Number of Response	Response Rate (%)
Upper Ulip	2,400	242	242	100
Diwalwal	1,031	104	104	100
<b>Total</b>	<b>3,431</b>	<b>346</b>		

## Statistical Treatment

Due to the continuous nature of interpretation of the Likert scales, the study assumes that each level of the scale is equally spaced, thus, a computation of the mean is feasible. Table 2 below presented the scale and data interpretation for the research.

**Table 2. Scale and Data Interpretation**

Scale	Range	Interpretations
<b>5</b>	4.50 – 5.00	Very high concern/Very interested/Very high acceptance
<b>4</b>	3.50 – 4.49	High concern/Interested/ High acceptance
<b>3</b>	2.50 – 3.49	Moderately high concern/Moderately interested/Moderately high acceptance
<b>2</b>	1.50 – 2.49	Low Concern/Low interest/Low acceptance
<b>1</b>	0.50 – 1.49	Very Low Concern/Very low interest/ Very low acceptance

## SUMMARY OF FINDINGS

### Demographics

Most or 74 percent of the respondents belong to age range 26-55 years old which means that the respondents are still within their working age. Only around 13 percent are within the age group 56-65 years old and above.

Out of the 346 respondents of the survey, most or 72 percent males and 28 percent are females. There are more male respondents in Diwalwal than in Upper Ulip.

### **Average Household Size**

The Average Household Size (AHS) for Upper Ulip and Diwalwal are almost the same. The AHS for Upper Ulip is 4.1 persons per household while the AHS for Diwalwal is 4.3 persons per household.

### **Household Members' Age, Sex, Relationship to Household Head and Marital status**

The highest number of the household members belong to age group 0-18 years old with 41.6 percent, followed by those who belong to age group 19-37 with 30.4 percent, and age group 38-56 with 20.4%. Very few belong to age group 57-94 years old. This implies that majority of the household members are still within their working age, hence they can apply for work in the company, if they are qualified for the job. There are more females within the age group 0-37 years old and more males within the age group 38-75 years old.

Majority or 52 percent of the household members are males. However, there are more female household members in Diwalwal compared to Upper Ulip. Further, the highest number of the respondents are sons of the household heads, followed by the daughters and the wives/husbands.

Out of the total 1,472 household members (including the respondents), only a total of 279 or 19 percent are household heads. Few of their grandchildren, parents, brothers and sisters also live with the family.

In terms of the marital status of the household members, the highest are single, followed by those who are married and those who did not give answer at all. Few are widowed and separated.

### **Education**

The highest number of the respondents finished elementary level with 26.8 percent, followed by those who did not give answer at all with 18.1 percent. It can be assumed that those who did not give answer may have not taken any formal education. Twelve percent are high school graduates while 10.8 percent have high school level education or are currently in high school level. A little over 7 percent are currently in their junior high school. Less the 2 percent are college graduates and only 2 or 0.1 percent have advance degrees.

Based on gender, data shows that there are more males who finished elementary level and high school level compared to females. However, there are more females who are high school and college graduates compared to males.

### **Household Members' Income and Employment**

More household members or 47.7 percent did not bring income to the family for the last six months and only 16.6 percent have income for the last six months. There were 41.2 percent who did not give response at all implying that they might not be working for the last six months prior to this survey.

There are more males in Upper Ulip who are working for the last six months compared to females. There is only a very slight difference in the number of males (85) and females (73) in Diwalwal who worked for the last six months. This slight difference can possibly be due to the shutting down of the ball mills and carbon-in-pulp plants in Diwalwal as ordered by the Department of Environment and Natural Resources (DENR) in Region XI. According to Mellejor (2019), the Barangay Captain of Mt. Diwata (Mt. Diwalwal) Pedro Samillano, 70% of the total 10,400 of the area rely on mining. Mellejor further added that "the transfer of the batch-type mini CIP and ball/rod mills operated by the small-scale miners to the Mineral Processing Zone at Mabatas area had been recommended by the MGB to the Program Monitoring and Coordinating Center (PMCC) in early 2000 because of high mercury contamination levels in Naboc River".

Several reasons were identified for those who were not working for the past six months before the survey was conducted. These reasons are: they are still students, plain housewives and no jobs available. This implies that those who are still studying can become part of the Barangays workforce



in the future. Almost half or 47.5 percent of those not are either still infant or child and those who did not give answer at all.

### **Household Members' Vulnerabilities**

There are family members of the respondents who are pregnant, too old, infants and children as well as the handicapped. Based on figures, there are more males who have handicapped than females.

### **Respondents' Profile**

#### **Language Spoken**

The top two languages spoken in the households in Upper Ulip and Diwalwal are: Visayan and Mandaya. Over 15 percent also speak mix languages. There are more Mandaya speaking persons (54) in Upper Ulip than in Diwalwal (7). Data also shows that there are 0.3% of the respondents who speaks Manobo. This implies that there are Indigenous People living in the area.

Most of the respondents are originally from the same place. On a per Barangay basis, there are more males in Diwalwal who are not originally from the place compared to the males in Upper Ulip.

Those who are not originally from Barangay Upper Ulip and Diwalwal revealed that they came from different regions, municipalities and cities. Though there are some who came from nearby municipalities such as Mawab, Compostela Province, there are also some who came as far Leyte, Masbate, Zamboanga, Bohol, Iloilo City and Cebu City. This implies that the residents of Upper Ulip and Diwalwal are actually of mixed ethnic compositions.

#### **Sources of Income**

The main source of family income is wage/salary, followed by farming and Poverty funds such as 4Ps. Others are into trading, wood and wood products, animal husbandry, mining jobs, among others. This implies that the respondents have varied main source of family income. The income of more male respondents come from wages/salaries as well as farming compared to females.

Poverty funds is the topmost secondary source of income for the respondents. Some do followed livestock keeping, farming and trading. Most of the animals raised by the respondents are pigs and chickens and these are usually sold or consumed by the households.

Data on income is the income that head of a household or their representatives disclosed during the survey. Although the interviewers tried to work with households to help them compute their incomes, it seemed difficult for them to determine their average yearly income especially for those who earn from different sources such as part time jobs and those who received goods for their services. Hence, the data are estimates of the yearly average income of the households.

The average annual income of the respondents ranges from PhP50,001 to 100,00. Less than 10 percent have a yearly income of PhP100,001 to 200,001 and above. Dividing their income monthly, majority hardly earns over PhP10,000 a month.

In order to augment their family income, majority of the respondents do subsistence production such as livestock production, vegetable and fruits production. Others grow root crops as well and other agricultural products. Some do not do subsistence production and merely rely on their primary source of income.

In terms of gender, there are more females in Barangay Ulip who do subsistence production compared to males. The highest number of females are into livestock keeping. On the other hand, there are more males in Diwalwal who do subsistence production compared to females.

Those who responded that they do subsistence production were asked of the annual estimated amount of what they produce. However, they have difficulty determining the amount. They revealed they do not mind the amount especially when it is for household consumption and not for sale.

## Expenditures

Most of the respondents spend around PhP30,001 to 50,000 annually for their food. There are only 25 percent who spend around PhP50,001 to 100,000 and above annually. More than 15 percent spend PhP10,000 to 20,000 annually for their food. For a family of four, it can be assumed that this spending is low enough. This implies that these families would have been relying also on subsistence production. Based on the data per barangay, the highest annual food spending for Upper Ulip is PhP40,001 to 50,000 while Diwalwal's highest spending amounted to PhP 30,001 to 40,000.

In terms of their annual estimated expense for electricity, the highest number of households spend between PhP10,001 to 20,000 for their electricity.

The highest annual spending of the households for education is 0 to 10,000; followed by those who spend around PhP10,001 to 20,000; and, PhP20,001 to 30,000. It must be noted that there are several public schools in the area where students from Kindergarten up to High School Level can go to school for free. This may be the reason why spending for schooling is not too expensive. Most of the budget for education can be attributed to the allowances of students for transportations, snacks and school projects. Budget for education only becomes so expensive when a family member pursues college education.

Majority of the respondents spend around PhP10,001 to PhP100,000 for their health, medicines and doctor. This result implies that some of the households spend more money for health, medicines and doctor check-ups compared to what they spend for education and electricity. Health is expensive and although there are health centers in the barangay, not all medicines are available for all types of illnesses.

## LAND STATUS

Land ownership is an important factor in case a household will be affected by the project and relocation is unavoidable. Out of the total 346 respondents, only 37 or 10.7 percent own a title for their land. Most of the respondents or 88.4 percent have no title for their land. Most of the respondents in Upper Ulip or 73 percent and only 27 percent of the respondents in Diwalwal own their land.

Those who claimed they have title for their land were asked if their title is under their name. There were 13 or 29.7 percent who said their land title is under their name, while 23 or 62.2 percent said the title is not under their name. This suggests that the title could have been named to other members of the household. Only one respondent did not answer. It must be noted that during the conduct of the survey, the interviewees were not requested to present their land title to the interviewers. Responses reflected are merely based on what the respondents disclosed.

Those who claimed they have title for their land disclosed that they hold a Certificate of Ancestral Domain Title (CADT), while others said that they hold individual title.

## HOUSING, INFRASTRUCTURE AND INVENTORY OF MOVABLE ASSETS

Most of the respondents own their house, but some are just renting. There are a few, whose houses, are provided by their employers. In case these households will be affected by the project, then they are entitled to compensations for their houses. This is the point when the project owners and the affected household need to have a dialogue for just compensations.

Most of the respondents or 62.1 percent used mixed materials for their house e.g. plywood, bamboo, etc. Some used half concrete/half wood or half concrete/half bamboo for their external wall. Only 9.0 percent used all-concrete for the external wall of their house and most of them resides in Upper Ulip. It can be concluded that almost all of the respondents actually used some semi-permanent materials for their houses. In case of relocation, materials such as wood can still be reused if they want to.

Movable assets are assets owned by the household such as appliances and furniture that they can bring with them in case they will be relocated. Almost all of the respondents do own appliances such as television, radio, among others as well as furniture such as dining set, leaving room sets, etc.

## HEALTH AND SANITATION

The respondents were asked about water sources for both domestic and livelihood uses. Almost 50 percent of the respondents disclosed that their source of water is plumbing inside house; followed by those who said they have other sources such as spring and they have faucets or hose inside their house; and, those who said they have water pumps with 4.9%. Very few disclosed they have well-water. Others did not answer which means they do not know what their water source is. It is, however, good to note that Barangay Upper Ulip and Diwalwal have available water for their daily use. On a per barangay basis, majority of the respondents in Diwalwal have water plumbing inside their house while majority of those in Upper Ulip get their water from the spring.

### **Sanitation Facilities**

In terms of sanitation facilities, majority of the respondents revealed that they have toilet flush tank located inside their house; followed by those who have toilet flash tank located outside their house and those without flush tank toilets. Very few use public toilets. However, there are 2.6 percent or 9 households who have no toilet at all. Although this result is not alarming, this still has to be addressed. If people without toilets continue to do what they practice, they can possibly continue to contribute to the pollution of water sources in their area. On a per barangay basis, majority of the respondents in Diwalwal have water plumbing inside their house while majority of those in Upper Ulip get their water from the spring.

One way of ensuring that water sources in a given area will not be polluted is the availability of sewerage system. When the respondents were asked about it, almost all or 96.8 percent of the respondents claimed they sewerage system inside their house while very few said they do not have. There are more respondents in Diwalwal who have no sewerage system compared to Upper Ulip.

Those who said they have sewerage system were asked what type do they have. Most or 80% of them said they have septic tank and 16.8 percent said they have common sewerage facility. Unfortunately, 2.1 percent revealed their toilet wastes are directly discharged to the river. This is one of the reasons why Naboc river have high fecal content. According to Agenparl.eu (2019), the Environmental Management Bureau (EMB) noted that wastewater from the households also contaminated Naboc River. Fecal Coliform in the river was reported as high as most probable number (mpn) per 100 milliliter of water. The standard number of which is only 200 mpn per milliliter of water.

### **Solid Waste**

The solid waste generated by the households in the two barangays are disposed in different ways. The highest number of the respondents said that they disposed their garbage irregularly; followed by those whose garbage are collected regularly by the municipality; and, other ways such as just dumping it near their house and composting.

### **Health Centers**

In terms of availability of health centers in their barangay, almost all of the respondents said they have barangay health centers. This implies that the respondents have access to basic health services in their area. The respondents were asked about the distance of their residence from the health centers. Most or 72.4 percent of the respondents revealed that their health center is more than 1 kilometer away from their residence. It was disclosed during the survey that they have public transport they could hire in going to the health center. The road may be rough at times, but somehow they manage to get there when needed.

## **MEMBERSHIP TO GOVERNMENT HEALTH AND RETIREMENT SYSTEMS**

### **Social Security System Membership**

In term of their membership to the government health systems, the respondents were asked whether they are members to the Social Security System (SSS). It is good to note that most or 85.2 percent of the respondents are members of the SSS. This is a good indicator that they are concerned of their health and senior citizens' pension.

Out of the total 104 respondents in Upper Ulip, 14 are non SSS members while out of the 242 respondents in diwalwal, 31 are non- members. Generally, there are a total of 45 respondents who are non-SSS members. This may not be very alarming considering that they only constitute 13 percent of the total respondents. However, it is to the advantage of this respondents to enroll themselves in the future for their protection. It must be noted that not all of the respondents are employed in a company or agencies, hence it can be assumed that they pay their SSS contribution voluntarily.

### **Philippine Health Insurance Corporation Membership**

The Philippine Health Insurance Corporation, commonly known as PhilHealth, is a tax-exempt Government Corporation attached to the Department of Health for policy and coordination and guidance. It was established to provide health insurance and coverage and ensure affordable, acceptable, available and accessible health care services for all citizens of the Philippines. It serves as the means for the healthy to pay for the care of the sick and those who can afford medical care to subsidize those who cannot. The program shall be limited to paying for the utilization of health services by the covered beneficiaries (PhilHealth, 2014).

Majority or 62.7 percent of the respondents are PhilHealth members, 217 respondents out of 346. On the other hand, 126 out of 346 or 36.4 percent are non- members. There are more male respondents in Diwalwal who are members of PhilHealth compared to the females. The same holds true also in Upper Ulip.

## **Part II. Perception Survey**

This perception survey is conducted in order to find out the different concerns of the respondents about the project. It will also provide them with the opportunity to express their views.

Covered in the perception survey are the social, economic, political/institutional and environmental concerns of the respondents about the project. The respondents were also asked about their willingness to work in the project, willingness to attend public consultations, their perceptions about the positive and negative impacts of the project, expected development in the area as a result of project implementation, among others.

### **Concerns about the Project**

Social concerns are topics, issues and values that are most prevalent in the minds of the community. Social concerns when not clarified or answered may cause anxiety. The respondents have high to very high social concerns with a mean range of 4.31 to 4.55. There highest concern is on the displacement of their homes which implies that this is the most prevalent social issue in their minds. Resettlement, being one of the highest concerns of the respondents must be objectively addressed in case the residents in the area will be affected by the project.

Moreover, the respondents have high concerns on the destruction of property improvement, social disintegration (when their new location will be far from their family and friends), distance from place of work and school of children in case of resettlement, opening of access roads and absence of opportunity to attend public consultations with a mean of 4.31 to 4.46. This implies that the respondents want to be consulted as far as the project is concerned.

Based on Barangay data and gender, it can be concluded that the males in Upper Ulip and Diwalwal have very high social concerns, both with a mean of 4.54 and 4.51. The females have high social concern. The overall mean obtained is 4.41 of high social concern.

It is not expected that the Project will have direct impacts on any barangay infrastructure or public facilities. Further, no impacts to cultural heritage are expected, as there are no graves or shrines identified within the Project footprint.

### **Economic Concerns**

The respondents were asked about their economic concerns on the project. Survey results revealed that they have a very high economic concern as far the non-inclusion of women in job opportunities and not prioritizing local residents in job hiring, with a mean of 4.63 and 4.58, respectively. This implies that the respondents are willing to work in the project, if they are given the opportunity and if they are qualified.

It must be noted that some of the respondents are actually involved in mining activities in the area. Therefore, it would not much of a challenge to actually harness their skills if they are interested to work with the company. Obviously, the result revealed that the respondents wanted to be give priority in job vacancies.

### **Business Owners**

Less than 10% of the respondents have business in their barangay. This implies that there not much business ventures that will be affected in the project implementation. The determination of business existing in the area is necessary because the compensation package for them, in case they will be affected, will vary compared to households that will be affected. Half of those who have business own retailing stores (Sari-Sari store), while the rest are selling food and doing sidewalk vending.

### **Environmental concerns**

Environmental concerns covered in this survey include land, water, biodiversity, among others. The respondents have high to very high environmental concerns with the mean of 4.48 to 4.68. Their highest concern is on the chemical contamination of ground water and rivers with 4.68 or very high. Hence, the project owner needs to ensure the respondents and the residents in the area that the project will not endanger their water resources.

Moreover, the respondents have very high concern on chemical waste, cutting of trees, change of landscape, among others. In terms of cutting of trees for the project, it must be noted that a permit is needed to cut trees. Hence, the project owner has to secure the same from the nearest field office of the Department of Environment and Natural Resources (DENR) in case cutting of trees is unavoidable. The respondents have also very high concern on endangering biodiversity (flora and fauna) within the project area which implies that they want the biodiversity preserved as much as possible

The overall mean for environmental concern is 4.58 which means that the respondents have very high concern about the environment. The respondents from Upper Ulip have higher environmental concerns compared to the respondents in Diwalwal. Generally, males have higher environmental concerns compared to female respondents.

### **Political/Institutional Concerns**

On Political/Institutional concerns, the respondents have high political concerns with a mean ranging 4.29 to 4.48. Their highest concern based on their perception is that endorsement from the local officials is very important with 4.48; followed by their concern that local officials must be involved in the planning phase of the project with a mean of 4.41; and, women must be involved in the planning phase and public consultations with a mean of 4.33. It can be concluded that the respondents really want their local officials to be informed and involved as far as the project is concerned.



The overall mean obtained is 4.38 which means that they have high political concern. Comparing the data by barangays, it shows that male respondents in Diwalwal have higher political concerns compared to the male respondents in Upper Ulip. The result is opposite for the female respondents – Upper Ulip females have higher political concerns compared to the females in Diwalwal.

### **Willingness to Work in the Project**

When asked about their willingness to work with the company, results revealed that almost all of the respondents want to work with the company if there are opportunities. This suggests that the respondents would still want to augment their current income. This can also prompt the company to identify and probably offer alternative livelihood in the area as part of their Corporate Social Responsibility (CSR).

The respondents have varied preferred type of work. Majority or 57.9 percent want to be laborers in the company. The result shows that even female respondents want to become laborers also. Further, it can be seen that there are also respondents who can be potentially hired by the company such as those who can do electrical works with 11.9%. There are also a few who can do mining work, masonry, driving and masonry. Others revealed they are willing to work according to their capabilities.

### **Willingness to attend Public Consultation**

The respondents are highly interested to attend the public consultation. They are highly interested on topics such as project design, project impacts on livelihood and environment, local endorsements and compliance to government regulations.

The male respondents in Upper Ulip have a very high interest on all the topics stated in the table with a mean of 4.80 while the males in Diwalwal have high level of interest with a mean of 4.38. Female respondents in Upper Ulip have very high interest while females in Diwalwal have only high interest. In general, it can be concluded that the respondents have high level of interest with a mean of 4.37.

### **Acceptance of the Project**

After getting all their responses on their concerns about the project, the respondents were asked on their level of acceptance. Results revealed that the respondents highly accept the project with an overall mean of 4.15. However, their acceptance is also subject to the fact that their concerns have to be objectively addressed by the project owner.

### **Potential Hindrances for Accepting the Project**

In order to further measure the respondents' perceptions, they were asked to rate the potential hindrances for their project acceptance. The highest potential hindrance is on the non-assurance that the locals will be given priority in job hiring in case they are qualified and non-compliance to government requirements e.g. Environmental Compliance Certificate (ECC), both with a mean of 4.36. This means that the respondents concerned about the environment and at the same time having a job in the company.

Further, the respondents considered physical dislocation even with compensations as a highly potential hindrance to project acceptance. Relocation or physical dislocation is quite a sensitive concern among the affected households, hence this should be dealt with objectively.

### **Potential positive Impacts**

The perception of the respondents on the potential positive impact of the project are varied. On top of the list is that they believe more income will come; followed by economic development in the area; and, infrastructure development. The rest said they are hoping the project will offer scholarship program, community development, increase in community population due to more job opportunities, lively community, more benefits for the employees, road development for easy transportation, among others.

**Potential Negative Impacts**

The respondents perceived that the project operation can destroy the vegetative cover of the area, it can cause chemical contamination of water and biodiversity loss. It is important that these perceived negative impacts can be addressed and mitigated. It is also necessary that these will be explained to the stakeholders during consultations.

**Expected Developments**

The three development priorities that the respondents want to see in their barangay as a result of project implementation are: sustainable livelihood, safe drinking water and infrastructure development/improved accessibility.

**Feelings about the Project**

The highest number of respondents are thankful of the project with 33.2 percent, around 27 percent are excited, and 24.4 percent said they are worried. Some respondents worry about the uncertainty on whether they will be affected by the project or they will be relocated. They also worry about their source of income. There are more male respondents in Upper Ulip who are excited of the project, while more female respondents in Diwalwal feel the same. Also, more males in Upper Ulip are worried about the project than the males in Diwalwal.

Some 16.1% percent did not answer about how they feel about the project during the conduct of the survey. Their attitude is more of “wait and see”.

**Part I. Socio-Economic Survey Result**

The socio-economic survey was conducted in order to gather baseline data from the randomly selected households in Barangays Upper Ulip and Diwalwal, Monkayo, Compostela Valley Province. The data gathered from the survey will be very useful in planning for activities that will address the concerns of the stakeholders, identifying necessary mitigation measures for the potential project impacts on the environment as well as people, among others.

**Household Characteristics**

The highest number of respondents belong to age group 46-55 years old with 26.9%, followed by those who belong to age group 36-45 years old with 26.3%; and, those who belong to age group 26-35 years old with 20.8%. In general, it can be concluded that a larger number (74%) of the respondents belong to age range 26-55 years old which means that the respondents are still within their working age. Only around 13% are within the age group 56-65 years old and above.

**Table 3. Age Distribution of the Respondents**

Age Range	16-25 years old			26-35 years old			36-45 years old			46-55 years old			56-65 years old			65 above			No Response			Total		
Brgy.	Male	Female	ST	Male	Female	ST	Male	Female	ST	Male	Female	ST	Male	Female	ST	Male	Female	ST	Male	Female	ST	Male	Female	Total
Upper A	2	7	9	7	8	15	12	14	26	9	12	21	3	3	6	6	3	9	10	8	18	49	55	104
Upper B	9	7	16	49	8	57	60	5	65	60	12	72	12	4	16	9	6	15	1	0	1	200	42	242
No of Respondents	11	14	25	56	16	72	72	19	91	69	24	93	15	7	22	15	9	24	11	8	19	249	97	346
%	4.4	14.4	7.2	22.5	16.5	20.8	28.9	19.6	26.3	27.7	24.7	26.9	6.0	7.2	6.4	6.0	9.3	6.9	4.4	8.2	5.5	72.0	28.0	100.0

Data in Table 4 shows that out of the 346 respondents of the survey, majority (72%) are males and 28% are females. There are more male respondents in Diwalwal than in Upper Ulip.

**Table 4. Sex Distribution of Respondents**

Sex	Male		Female		Total	
Brgy.	No.	%	No.	%	No.	%
Upper Ulip	49	47.1	55	52.9	104	30.1
Diwalwal	200	82.6	42	17.4	242	69.9
Total	249	72.0	97	28.0	346	100.0

In Table 5, it can be gleaned that the total household members in Upper Ulip based on the 104 respondents is 433. This means that the Average Household Size (AHS) is 4.1 persons per household. On the other hand, there are also a total of 1,039 household members for Diwalwal based on the responses of the 242 respondents. This suggests an AHS of 4.3 persons per household. In general, it can be concluded that the average household size (AHS) in Barangay Ulip and Diwalwal are almost same. According to the Philippine Statistics Authority (PSA) in 2015, the lowest AHS was recorded in the National Capital Region (NCR) and Region XI (Davao), both with 4.1 persons.

**Table 5. Number of Household Members**

Number of household members	Upper Ulip	Mt. Diwata	Total
	433	1039	1472

The highest number of the household members belong to age group 0-18 years old with 41.6%, followed by those who belong to age group 19-37 with 30.4%, and age group 38-56 with 20.4%. Very few or less than 10% belong to age group 57-94 years old. This implies that majority of the household

members are still within their working age and the possibility for them getting hired in a company is high if they are qualified for the job. Further, data also revealed that there are more females within the age group 0-37 years old and more males within the age group 38-75 years old.

**Table 6. Age of the household members**

Age Range	0-18 years old			19-37 years old			38-56 years old			57-75 years old			76-94 years old			No Answer			Total		
Brgy.	Male	Female	ST	Male	Female	ST	Male	Female	ST	Male	Female	ST	Male	Female	ST	Male	Female	ST	Male	Female	ST
Upper Ulip	93	69	162	67	66	133	42	38	80	25	16	41	3	6	9	2	6	8	232	201	433
Diwalwal	230	220	450	162	152	314	119	102	221	21	21	42	0	0	0	2	10	12	534	505	1039
No of Respondents	323	289	612	229	218	447	161	140	301	46	37	83	3	6	9	4	16	20	766	706	1472
%	42.2	40.9	41.6	29.9	30.9	30.4	21.0	19.8	20.4	6.0	5.2	5.6	0.4	0.8	0.6	0.5	2.3	1.4	52.0	48.0	100.0

Majority (52%) of the household members are males. However, there are more female household members in Diwalwal compared to Upper Ulip.

**Table 7. Household Members' Gender**

Gender	Male		Female		Total	
Brgy.	No.	%	No	%	No	%
Upper Ulip	232	30.3	201	28.5	433	29.4
Diwalwal	534	69.7	505	71.5	1039	70.6
Total	766	52.0	706	48.0	1472	100.0

The highest number of the respondents (28.1%) are sons of the household heads, followed by the daughters with 24.9 and the wives/husbands with 24.2%.

Out of the 1,472 household members (including the respondents), only a total of 279 or 19% only of the respondents are the household heads. Few of their grandchildren, parents, brothers and sisters also live with the family.

**Table 8. Relation of Household Members to the Household Head**

Relation of Household members to the household head	Upper Ulip	Diwalwal	Total	%
Household Head	57	222	279	19.0
Wife/Husband	138	218	356	24.2
Son	120	293	413	28.1
Daughter	94	273	367	24.9
Son/daughter In-Law	0	1	1	0.1
Grandchild	11	17	28	1.9
Parent	1	0	1	0.1
Brother/Sister	3	5	8	0.5
Grandparent	8	2	10	0.7
Others	1	8	9	0.6
<b>Total</b>	<b>433</b>	<b>1039</b>	<b>1472</b>	<b>100.0</b>

In terms of the marital status of the household members, it can be gleaned that the highest number of the respondents (35.1%) are single; followed by those who are married with 26.8%. There were 36.3% whose marital status were not answered. There were a few who are widowed and separated.

**Table 9. Marital Status of the Household Members**

Brgy	A	B	C	D	E	F	TOTAL
	<b>Male</b>						
Upper Ulip	113	91	0	2	2	24	232
Diwalwal	181	53	0	2	6	292	534
Sub-total	294	144	0	4	8	316	766
%	38.4	18.8	0.0	0.5	1.0	41.3	100.0
	<b>Female</b>						
Upper Ulip	74	92	0	8	2	25	201
Diwalwal	148	158	1	3	1	194	505
Sub-total	222	250	1	11	3	219	706
%	31.4	35.4	0.1	1.6	0.4	31.0	100.0
<b>TOTAL</b>	<b>516</b>	<b>394</b>	<b>1</b>	<b>15</b>	<b>11</b>	<b>535</b>	<b>1472</b>
<b>%</b>	<b>35.1</b>	<b>26.8</b>	<b>0.1</b>	<b>1.0</b>	<b>0.7</b>	<b>36.3</b>	<b>100.0</b>
Legend: A-Single; B-Married; C-Annulled; D-Widowed; E-Separated; F-No Answer							

The highest number of the respondents are those who have finished elementary level with 26.8%, followed by those who did not give answer at all with 18.1%. It can be assumed that those who did not give answer may have not taken any formal education.

Moreover, there are 12% of the respondents who are high school graduates; 10.8% who have high school level education or are currently in high school level, and 7.1% are currently in their junior high school. Less the 2% are college graduates and only 2 or 0.1% have advance degrees.

Based on gender, data shows that there are more males who have finished elementary level and high school level compared to females while there are more females who are high school and college graduates compared to males. It can also be gleaned that males who did not disclosed about their education is almost 15% higher than the females. This implies that there are more males who have not gone to school or do not have any formal education at all.



**Table 10. Current/Last School that the Family Member is Attending /has Graduated**

Brgy	A	B	C	D	E	F	G	H	I	J	K	L	M	TOTAL
<b>Male</b>														
<b>Upper Ulip</b>	15	1	75	22	15	8	38	32	7	9	3	1	6	<b>232</b>
<b>Diwalwal</b>	22	9	135	21	39	26	51	27	4	11	3	0	186	<b>534</b>
<b>Sub-total</b>	37	10	210	43	54	34	89	59	11	20	6	1	192	<b>766</b>
<b>%</b>	4.8	1.3	27.4	5.6	7.0	4.4	11.6	7.7	1.4	2.6	0.8	0.1	25.1	100.0
<b>Female</b>														
<b>Upper Ulip</b>	18	2	51	16	15	3	29	37	2	13	10	0	5	<b>201</b>
<b>Diwalwal</b>	34	14	133	26	36	40	41	81	7	16	7	1	69	<b>505</b>
<b>Sub-total</b>	52	16	184	42	51	43	70	118	9	29	17	1	74	<b>706</b>
<b>%</b>	7.4	2.3	26.1	5.9	7.2	6.1	9.9	16.7	1.3	4.1	2.4	0.1	10.5	100.0
<b>TOTAL</b>	<b>89</b>	<b>26</b>	<b>394</b>	<b>85</b>	<b>105</b>	<b>77</b>	<b>159</b>	<b>177</b>	<b>20</b>	<b>49</b>	<b>23</b>	<b>2</b>	<b>266</b>	<b>1472</b>
<b>%</b>	<b>6.0</b>	<b>1.8</b>	<b>26.8</b>	<b>5.8</b>	<b>7.1</b>	<b>5.2</b>	<b>10.8</b>	<b>12.0</b>	<b>1.4</b>	<b>3.3</b>	<b>1.6</b>	<b>0.1</b>	<b>18.1</b>	<b>100.0</b>

Legend: A-Below school age; B-Has not gone from any school; C- Elementary level; D-Elementary Graduate; E-Junior high school; F-Junior high school graduate; G-High school level; H-High school graduate; I-Vocational School graduate; J-College level; K-College graduate; L-Advance Degree ( Masters/PhD); M-No answer

Based on Table 11, it can be concluded that there are more household members (47.7%) who did not bring income to the family for the last six months and only 16.6% have income for the last six months. There were 41.2% who did not give response at all implying that they might not be working for the last six months prior to this survey.

Further, the result revealed that there are more males in Upper Ulip who are working for the last six months compared to females. There is only a very slight difference in the number of males (85) and females (73) in Diwalwal who worked for the last six months. This slight difference can possibly be due to the shutting down of the ball mills and carbon-in-pulp plants in Diwalwal as ordered by the Department of Environment and Natural Resources (DENR) in Region XI. According to Mellejor (2019), the Barangay Captain of Mt. Diwata (Mt. Diwalwal) Pedro Samillano, 70% of the total 10,400 of the area rely on mining. Mellejor further added that "the transfer of the batch-type mini CIP and ball/rod mills operated by the small-scale miners to the Mineral Processing Zone at Mabatas area had been recommended by the MGB to the Program Monitoring and Coordinating Center (PMCC) in early 2000 because of high mercury contamination levels in Naboc River".

**Table 11. Household Members Who Worked Which Brings Income in the Last Six Months**

Brgy.	Yes			No			No Response			Total		
	Male	Female	ST	Male	Female	ST	Male	Female	ST	Male	Female	Total
<b>Upper Ulip</b>	71	15	<b>86</b>	115	117	<b>232</b>	46	69	<b>115</b>	<b>232</b>	<b>201</b>	<b>433</b>
<b>Diwalwal</b>	85	73	<b>158</b>	130	259	<b>389</b>	319	173	<b>492</b>	<b>534</b>	<b>505</b>	<b>1039</b>
<b>No of Respondents</b>	<b>156</b>	<b>88</b>	<b>244</b>	<b>245</b>	<b>376</b>	<b>621</b>	<b>365</b>	<b>242</b>	<b>607</b>	<b>766</b>	<b>706</b>	<b>1472</b>
<b>%</b>	<b>20.4</b>	<b>12.5</b>	<b>16.6</b>	<b>32.0</b>	<b>53.3</b>	<b>42.2</b>	<b>47.7</b>	<b>34.3</b>	<b>41.2</b>	<b>52.0</b>	<b>48.0</b>	<b>100.0</b>

Several reasons were identified for those who were not working for the past six months before the survey was conducted. The highest number was because they are still students with 31.1%; followed by those who are plain housewives with 14.3%; and, those who said there were no available jobs. This implies that those who are still studying can become part of the Barangays workforce in the future.

On the other hand, almost half (47.5%) of those who were not working are either still infant or child and those who did not give answer at all.

It must be noted that there are some family members who have vulnerabilities that is why they are not working. They are those who are pregnant, too old, child and infants as well as the handicapped. Based on figures, there are more males who have handicapped than females.

**Table 12. Reasons for not Working**

Brgy	A	B	C	D	E	F	G	H	I	J	K	TOTAL
<b>Male</b>												
<b>Upper Ulip</b>	0	66	3	17	0	6	4	2	0	0	134	<b>232</b>
<b>Diwata</b>	0	171	12	13	0	2	3	2	7	0	324	<b>534</b>
<b>Sub-total</b>	0	237	15	30	0	8	7	4	7	0	458	<b>766</b>
<b>%</b>	0.0	30.9	2.0	3.9	0.0	1.0	0.9	0.5	0.9	0.0	<b>59.8</b>	<b>100.0</b>
<b>Female</b>												
<b>Upper Ulip</b>	0	46	60	5	0	5	0	0	1	1	83	<b>201</b>
<b>Diwata</b>	1	175	135	18	6	1	4	3	4	0	158	<b>505</b>
<b>Sub-total</b>	1	221	195	23	6	6	4	3	5	1	241	<b>706</b>
<b>%</b>	0.1	31.3	27.6	3.3	0.8	0.8	0.6	0.4	0.7	0.1	34.1	<b>100.0</b>
<b>TOTAL</b>	<b>1</b>	<b>458</b>	<b>210</b>	<b>53</b>	<b>6</b>	<b>14</b>	<b>11</b>	<b>7</b>	<b>12</b>	<b>1</b>	<b>699</b>	<b>1472</b>
<b>%</b>	<b>0.1</b>	<b>31.1</b>	<b>14.3</b>	<b>3.6</b>	<b>0.4</b>	<b>1.0</b>	<b>0.7</b>	<b>0.5</b>	<b>0.8</b>	<b>0.1</b>	<b>47.5</b>	<b>100.0</b>

Legend: A-Retired; B-Student; C-Housewife; D-No job available; E-Pregnant; F-Too old; G-Handicapped; H-Does not need to work; I-Looks after house works; J-Not allowed to work; K-Others (Child, Infant, no answer)

The top three languages spoken in the households in Upper Ulip and Diwalwal are: Visayan with 61.8%; followed by Mandaya with 17.6%; and mix languages with 15.6. There are more Mandaya speaking persons (54) in Upper Ulip than in Diwalwal (7). Data also shows that there are 0.3% of the respondents who speaks Manobo. This data on language spoken by the household members is an indicator that there are Indigenous Peoples (IPs) who are living in the area. Hence, before the project can proceed coordination with the National Commission on Indigenous Peoples (NCIP) is necessary. The project may also be required to get Free and Prior Informed Consent (FPIC) from the community.

**Table 13. Principal Language Spoken in the Household**

Language spoken	Upper Ulip	Diwalwal	Total	%
Visayan	48	166	214	<b>61.8</b>
Manobo	0	1	1	<b>0.3</b>
Mandaya	54	7	61	<b>17.6</b>
Others:				
Tagalog	1	0	1	<b>0.3</b>
Surigaonon	1	1	2	<b>0.6</b>
Agusanon	0	1	1	<b>0.3</b>
Bol-anon	0	2	2	<b>0.6</b>
Hiligaynon	0	1	1	<b>0.3</b>
Ilocano	0	1	1	<b>0.3</b>
Ilonggo	0	2	2	<b>0.6</b>
Islam	0	1	1	<b>0.3</b>
Kamayo	0	1	1	<b>0.3</b>
Cebuano	0	2	2	<b>0.6</b>
Waray	0	1	1	<b>0.3</b>
Mix	0	54	54	<b>15.6</b>
No Answer	<b>0</b>	<b>1</b>	<b>1</b>	<b>0.3</b>
<b>Total</b>	<b>104</b>	<b>242</b>	<b>346</b>	<b>100.0</b>

The respondents were asked whether their current residence is their original place of residence or they come from other place. Result revealed that most (71.4 %) are originally from the same place while 27.2% came from other places. Very few did not give answer at all. On a per Barangay basis, it can be gleaned that there are more males in Diwalwal who are not originally from the place compared to the males in Upper Ulip.

**Table 14. Place of Origin**

Place of Origin	YES			NO			No Answer			Total		
	Male	Female	ST	Male	Female	ST	Male	Female	ST	Male	Female	Total
Upper Ulip	43	43	86	6	12	18	0	0	0	49	55	104
Diwalwal	128	33	161	68	8	76	4	1	5	200	42	242
Total	171	76	247	74	20	94	245	96	5	490	192	346
%	68.7	78.4	71.4	29.7	20.6	27.2	70.8	27.7	1.4	141.6	55.5	100.0

Interestingly, those who revealed that they are not originally from Barangay Upper Ulip and Diwalwal revealed that they came from different regions, municipalities and cities. Though there are some who came from just the nearby municipalities such as Mawab, Compostela Province, there are also some who came as far Leyte, Masbate, Zamboanga, Bohol, Iloilo City and Cebu City. This implies that the residents of Upper Ulip and Diwalwal are now actually composed of various tribes and mixed ethnic compositions.

**Table 15. Original Place of those not from Upper Ulip and Diwalwal**

Place of residence	Upper Ulip		Mt Diwata		%
	Male	Female	Male	Female	
Agusan del Sur			1.5		1.1
Bansalan Davao del Sur			1.5		1.1
Bayugan			4.4		3.2
Bohol		8.3	2.9		3.2
Buenavista, Agusan Del Norte			1.5		1.1
Bukidnon			7.4		5.3
Butuan City			4.4		3.2
Casoon Monkayo		8.3			1.1
Cebu City		8.3	4.4	12.5	5.3
Cortiz Bohol			1.5		1.1
Davao City			4.4		3.2
Davao Oriental			1.5		1.1
Digos			1.5		1.1
Dinagat Island			1.5		1.1
Gingoog City			2.9		2.1
Gov. Generoso, Davao Oriental			1.5		1.1
Iloilo City			1.5		1.1
Kapalong Davao Del Norte		8.3	1.5		2.1
Leyte			1.5	12.5	2.1
Lumbanague, Lanao del Sur			1.5		1.1
Luzon	16.7				1.1
Malita, Davao del Sur			1.5		1.1
Mamunga, Monkayo Comval		8.3			1.1
Mangagoy, Surigao del Sur			4.4		3.2
Marawi City			5.9		4.3
Masara, Mawab ComVal		8.3			1.1
Masbate	16.7				1.1
Matangad	16.7				1.1
Mati, Davao Oriental		8.3			1.1
Mawab, Comval			1.5		1.1
Monkayo Comval	16.7				1.1

Place of residence	Upper Ulip		Mt Diwata		%
	Male	Female	Male	Female	
Montevista			5.9	12.5	5.3
Nabunturan			1.5		1.1
Negros Oriental			1.5		1.1
New Corilla, Davao Del Norte		8.3			1.1
New Leyte Comval Province			1.5		1.1
No Answer	16.7		8.8	25.0	9.6
North Cotabato				12.5	1.1
Pagadian, Zamboanga del Sur			1.5		1.1
Panabo City			1.5		1.1
San Jose, Dinagat Island			1.5		1.1
San Jose, Surigao del Norte			1.5		1.1
San Juan, Surigao City			1.5		1.1
Santiago				12.5	1.1
South Cotabato		8.3			1.1
Sta. Josefa Agusan Del Sur		8.3			1.1
Surigao City		8.3	4.4		4.3
Surigao del Norte				12.5	1.1
Tagum City			2.9		2.1
Tebanban, Davao Oriental			1.5		1.1
Upi, Maguindanao		8.3			1.1
Zamboanga Del Norte	16.7		1.5		2.1
Zamboanga del Sur			1.5		1.1
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<b>Number of Respondents</b>	<b>6</b>	<b>12</b>	<b>68</b>	<b>8</b>	<b>94</b>

### Income and Expenditure

The main source of family income is wage/salary with 12%; followed by farming with 3.9%; and Poverty funds e.g. 4Ps with 2.7%. Others are into trading, wood and wood products, animal husbandry, mining jobs, among others. This implies that the respondents have varied main source of family income.

Based on gender disaggregated data, there are 50% more male respondents whose income come from wages and salaries compared to females. More males also do farming compared to females.

**Table 16. Family's Main Source of income**

Brgy	A	B	C	D	E	F	G	H	I	J	TOTAL
	<b>Male</b>										
Upper Ulip	23	22	0	3	1	0	2	5	0	1	57
Diwalwal	109	17	8	9	21	0	2	16	1		183

<b>Sub-total</b>	132	39	8	12	22	0	4	21	1	1	<b>240</b>
<b>%</b>	17.2	5.1	1.0	1.6	2.9	0.0	0.5	2.7	0.1	0.1	<b>31.3</b>
	<b>Female</b>										
<b>Upper Ulip</b>	24	15	1	11	6	0	2	15	0		<b>74</b>
<b>Diwalwal</b>	21	3	4	3	6	2	2	4	0	0	<b>45</b>
<b>Sub-total</b>	45	18	5	14	12	2	4	19	0	0	<b>119</b>
<b>%</b>	6.4	2.5	0.7	2.0	1.7	0.3	0.6	2.7	0.0	0.0	<b>16.9</b>
<b>TOTAL</b>	<b>177</b>	<b>57</b>	<b>13</b>	<b>26</b>	<b>34</b>	<b>2</b>	<b>8</b>	<b>40</b>	<b>1</b>	<b>1</b>	<b>359</b>
<b>%</b>	<b>12.0</b>	<b>3.9</b>	<b>0.9</b>	<b>1.8</b>	<b>2.3</b>	<b>0.1</b>	<b>0.5</b>	<b>2.7</b>	<b>0.1</b>	<b>0.1</b>	<b>24.4</b>
Legend: A-Wage/Salary; B-Farming; C-Animal Husbandry; D-Wood and wood products; E-Trading; F-Rental income; G-Pensions; H-Poverty funds ; I-Aids/assistance from NGOs; J-Others e.g. mining jobs											

Poverty funds is the topmost secondary source of income for the respondents with 4.6%; followed by animal husbandry/ Livestock keeping, farming and trading. Most of the animals raised by the respondents are pigs and chickens and these are usually sold or consumed by the households.

**Table 17. Family's Other Source of income**

Brgy	A	B	C	D	E	F	G	H	I	J	TOTAL
	<b>Male</b>										
<b>Upper Ulip</b>	8	7	12	1	2	0	7	14	0	0	<b>51</b>
<b>Diwata</b>	2	7	12	1	8	0	1	26	2	0	<b>59</b>
<b>Sub-total</b>	10	14	24	2	10	0	8	40	2	0	<b>110</b>
<b>%</b>	1.3	1.8	3.1	0.3	1.3	0.0	1.0	5.2	0.3	0.0	<b>14.4</b>
	<b>Female</b>										
<b>Upper Ulip</b>	3	1	7	2	4	0	1	21	1		<b>40</b>
<b>Diwata</b>	0	2	3	2	1	0	3	6	0		<b>17</b>
<b>Sub-total</b>	3	3	10	4	5	0	4	27	1	0	<b>57</b>
<b>%</b>	0.4	0.4	1.4	0.6	0.7	0.0	0.6	3.8	0.1	0.0	<b>8.1</b>
<b>TOTAL</b>	13	17	34	6	15	0	12	67	3	0	<b>167</b>
<b>%</b>	0.9	1.2	2.3	0.4	1.0	0.0	0.8	4.6	0.2	0.0	<b>11.3</b>
Legend: A-Wage/Salary; B-Farming; C-Husbandry; D-Wood and wood products; E-Trading; F-Rental income; G-Pensions; H-Poverty funds ; I-Aids/assistance from NGOs; J-Others e.g. remittances											

Data on income is the income that heads of households or their representatives disclosed during the survey. Although the interviewers tried to work with households to help them compute their incomes, it seemed difficult for them to determine their average yearly income especially for those who earn irregular incomes from a variety of sources such as part time jobs and those who received goods for their services. The data presented in Table 17 are only estimates of the yearly average income of the households.

It can be gleaned that the highest number of respondents (28.3%) have an average yearly income of 50,001 to 75,000; followed by those whose yearly income is 50,001 to 75,000 with 26.3%; and those with a yearly income of 75,001 to 100,000 with 15.0%. Less than 10% of the respondents have a yearly income of 100,001 to 150,000.00. A few earns as high as 150,001 to 200,001 and above.

**Table 18. Average yearly income**

Yearly income	Upper Ulip				Diwata				Total			
	Male	Female	ST	%	Male	Female	ST	%	Male	Female	Total	%
0 to 25,000	4	8	12	11.5	8	3	11	4.5	12	11	23	6.6
25,001 to 50,000	12	8	20	19.2	59	12	71	29.3	71	20	91	26.3
50,001 to 75,000	9	10	19	18.3	65	14	79	32.6	74	24	98	28.3
75,001 to 100,000	9	10	19	18.3	29	4	33	13.6	38	14	52	15.0



Yearly income	Upper Ulip				Diwata				Total			
	Male	Female	ST	%	Male	Female	ST	%	Male	Female	Total	%
100,001 to 125,000	2	0	2	1.9	9	4	13	5.4	11	4	15	4.3
125,001 to 150,000	2	2	4	3.8	11	1	12	5.0	13	3	16	4.6
150,001 to 175,000	1	2	3	2.9	5	0	5	2.1	6	2	8	2.3
175,001 to 200,000	2	3	5	4.8	1	2	3	1.2	3	5	8	2.3
200,001 and above	4	2	6	5.8	3	2	5	2.1	7	4	11	3.2
No Response	4	10	14	13.5	10	0	10	4.1	14	10	24	6.9
<b>Total</b>	<b>49</b>	<b>55</b>	<b>104</b>	<b>100.0</b>	<b>200</b>	<b>42</b>	<b>242</b>	<b>100.0</b>	<b>249</b>	<b>97</b>	<b>346</b>	<b>100.0</b>

In order to augment their family income, majority of the respondents do subsistence production. Topping the list is livestock production with 26.4%; followed by vegetable (16.9%) and fruits production with 9.8%. Others grow root crops as well and other agricultural products. There are 35.4% who did not give answer at all which means that they do not have subsistence production and merely rely on their primary source of income.

In terms of gender, there are more females in Barangay Ulip who are do subsistence production compared to males. The highest number of females are into livestock keeping. On the other hand, there are more males in Diwalwal who do subsistence production compared to females. There are 35% of the respondents who did not give answer at all which means that they are not doing any subsistence production to augment their income.

**Table 19. Subsistence Production**

Production	Upper Ulip				Diwalwal				Total			
	Male	Female	ST	%	Male	Female	ST	%	Male	Female	Total	%
<b>Fruits</b>	15	6	21	18.4	14	1	15	5.9	29	7	36	9.8
<b>Vegetables</b>	10	16	26	22.8	31	5	36	14.2	41	21	62	16.9
<b>Livestock</b>	14	18	32	28.1	53	12	65	25.7	67	30	97	26.4
<b>Others e.g. root crops</b>	2	3	5	4.4	35	2	37	14.6	37	5	42	11.4
<b>No Response</b>	12	18	30	26.3	78	22	100	39.5	90	40	130	35.4
<b>Total</b>	<b>53</b>	<b>61</b>	<b>114</b>	<b>100.0</b>	<b>211</b>	<b>42</b>	<b>253</b>	<b>100.0</b>	<b>264</b>	<b>103</b>	<b>367</b>	<b>100.0</b>

Those who responded that they do subsistence production were asked of the annual estimated amount of what they produce. However, they have difficulty determining the amount. They revealed they do not mind the amount especially when it is for household consumption and not for sale. Thus, the estimated amount in Table 20 appears to be low.

**Table 20. Estimated Amount of Subsistence Production**

Amount	Upper Ulip	%	Diwata	%	Total	%
<b>Below 1000</b>	0	0.0	27	11.2	27	7.8
<b>1,000 - 2,000</b>	4	3.8	42	17.4	46	13.3
<b>2,000 - 3,000</b>	4	3.8	37	15.3	41	11.8
<b>3,000 - 5,000</b>	9	8.7	92	38.0	101	29.2
<b>5,000 Above</b>	78	75.0	34	14.0	112	32.4
<b>No Response</b>	9	8.7	10	4.1	19	5.5
<b>Total</b>	<b>104</b>	<b>30.1</b>	<b>242</b>	<b>69.9</b>	<b>346</b>	<b>100.0</b>

In Table 21, it can be gleaned that the highest number of respondents spend around Php30,001 to 40,000 annually for their food with 20.5%; followed by those who spend 20,001 to 30,000 with 17.6%; and, those who spend Php40,001 to 50,000 with 13.9%. Almost 25% spend around Php50,001 to 100,000 above annually.

Only 3.8% spend PhP10,000 and below while 11.6% spend PhP10,001 to 2000 annually for food. For a family of four, this budget can be assumed to be not enough. This implies that these families would have been relying also on subsistence production.

Based on data on data per barangay, the highest annual food spending for Upper Ulip is 40,001 to 50,000 while Diwalwal's highest spending amounted to 30,001 to 40,000.

**Table 21. Average Household Annual Expenses for Food**

Amount	Upper Ulip	%	Diwata	%	Total	%
<b>0 to 10,000</b>	4	3.8	9	3.7	<b>13</b>	<b>3.8</b>
<b>10001 to 20,000</b>	8	7.7	32	13.2	<b>40</b>	<b>11.6</b>
<b>20001 to 30,000</b>	10	9.6	51	21.1	<b>61</b>	<b>17.6</b>
<b>30001 to 40,000</b>	17	16.3	54	22.3	<b>71</b>	<b>20.5</b>
<b>40001 to 50,000</b>	18	17.3	30	12.4	<b>48</b>	<b>13.9</b>
<b>50001 to 60,000</b>	9	8.7	16	6.6	<b>25</b>	<b>7.2</b>
<b>60001 to 70,000</b>	5	4.8	11	4.5	<b>16</b>	<b>4.6</b>
<b>70001 to 80,000</b>	12	11.5	7	2.9	<b>19</b>	<b>5.5</b>
<b>80001 to 90,000</b>	0	0.0	0	0.0	<b>0</b>	<b>0.0</b>
<b>90001 to 100,000</b>	6	5.8	6	2.5	<b>12</b>	<b>3.5</b>
<b>100,001 above</b>	14	13.5	0	0.0	<b>14</b>	<b>4.0</b>
<b>No response</b>	1	1.0	26	10.7	<b>27</b>	<b>7.8</b>
<b>Total</b>	<b>104</b>	<b>30.1</b>	<b>242</b>	<b>69.9</b>	<b>346</b>	<b>100.0</b>

In terms of their annual estimated expense for electricity, it can be gleaned in Table 22 that the highest amount spent by the households for electricity is between PhP10,001 to 20,000 with 24.3%; followed by the spending of PhP 0 to 10,000 with 13.0%; and, a spending of 40,001 to 50,000. The spending of PhP40,001 to 50,000 can be attributed to those who have business in the area. Further, the data shows that less than 20% of the respondents spent as high as 50,001 to 100,001 for their electricity annually. It must be noted that 28% of the respondents did not respond at all.

**Table 22. Average Household Annual Expenses for Electricity**

Amount	Upper Ulip	%	Diwata	%	Total	%
<b>0 to 10,000</b>	20	19.2	25	10.3	<b>45</b>	<b>13.0</b>
<b>10001 to 20,000</b>	21	20.2	63	26.0	<b>84</b>	<b>24.3</b>
<b>20001 to 30,000</b>	15	14.4	5	2.1	<b>20</b>	<b>5.8</b>
<b>30001 to 40,000</b>	7	6.7	4	1.7	<b>11</b>	<b>3.2</b>
<b>40001 to 50,000</b>	14	13.5	19	7.9	<b>33</b>	<b>9.5</b>
<b>50001 to 60,000</b>	3	2.9	5	2.1	<b>8</b>	<b>2.3</b>
<b>60001 to 70,000</b>	0	0.0	3	1.2	<b>3</b>	<b>0.9</b>
<b>70001 to 80,000</b>	1	1.0	10	4.1	<b>11</b>	<b>3.2</b>
<b>80001 to 90,000</b>	1	1.0	6	2.5	<b>7</b>	<b>2.0</b>
<b>90001 to 100,000</b>	1	1.0	21	8.7	<b>22</b>	<b>6.4</b>
<b>100,001 above</b>	3	2.9	1	0.4	<b>4</b>	<b>1.2</b>
<b>No response</b>	18	17.3	80	33.1	<b>98</b>	<b>28.3</b>
<b>Total</b>	<b>104</b>	<b>30.1</b>	<b>242</b>	<b>69.9</b>	<b>346</b>	<b>100.0</b>

Education is widely accepted to be fundamental resource, both for individuals and society. The highest level of education that individuals complete is another common measure of attainment (Roser and Ortiz-Ospina, undated).

In Table 23, it can be gleaned that that highest annual spending of the households for education is 0 to 10,000; followed by those who spend around PhP10,001 to 20,000; and, PhP20,001 to 30,000. It must be noted that there are several public schools in the area where students from Kindergarten up to High School Level can go to school for free. This may be the reason why spending for schooling is not too expensive. Most of the budget for education can be attributed to the allowances of students for transportations, snacks and school projects. Budget for education only becomes so expensive when a family member pursues college education.

The rest spend around PhP30,001 to 100,000 above. They are composed of households who send their children to private schools or those who have children studying in college in different universities. There were 19.1% who did not give their answer at all, which can mean that they do not have children who go to school anymore.

**Table 23. Average Annual Household Expenses for Education**

Amount	Upper Ulip	%	Diwata	%	Total	%
0 to 10,000	26	25.0	82	33.9	108	31.2
10001 to 20,000	22	21.2	71	29.3	93	26.9
20001 to 30,000	7	6.7	24	9.9	31	9.0
30001 to 40,000	6	5.8	10	4.1	16	4.6
40001 to 50,000	3	2.9	5	2.1	8	2.3
50001 to 60,000	1	1.0	1	0.4	2	0.6
60001 to 70,000	2	1.9	1	0.4	3	0.9
70001 to 80,000	0	0.0	2	0.8	2	0.6
80001 to 90,000	0	0.0	0	0.0	0	0.0
90001 to 100,000	5	4.8	1	0.4	6	1.7
100,001 above	3	2.9	8	3.3	11	3.2
No response	29	27.9	37	15.3	66	19.1
<b>Total</b>	<b>104</b>	<b>30.1</b>	<b>242</b>	<b>69.9</b>	<b>346</b>	<b>100.0</b>

Shown in Table 24 is the average annual expenses of the respondents for health, medicines and Doctor. Based on data, the highest number of respondents (22.8%) spend around PhP10,001 to 20,000; followed by those who spend PhP40,001 to 50,000 with 15.3%; and, PhP 90,001 to 100,000 with 14.7%. Almost 15% also spend around PhP0-10,000 annually for their health. Others said they spend over PhP20,000 annually on their health. This result implies that some of the households spend more money for health, medicines and doctor check-ups compared to what they spend for education and electricity. Health is expensive and although there are health centers in the barangay, not all medicines are available for all types of illnesses.

**Table 24. Average Annual Expenses Health, Medicines and Doctor**

expenses	Upper Ulip				Diwata				Total			
	Male	Female	ST	%	Male	Female	ST	%	Male	Female	Total	%
0 to 10,000	7	10	17	16.3	32	0	32	13.2	39	10	49	14.2
10001 to 20,000	17	8	25	24.0	48	6	54	22.3	65	14	79	22.8
20001 to 30,000	2	1	3	2.9	11	1	12	5.0	13	2	15	4.3
30001 to 40,000	1	0	1	1.0	8	0	8	3.3	9	0	9	2.6
40001 to 50,000	6	10	16	15.4	32	5	37	15.3	38	15	53	15.3
50001 to 60,000	0	1	1	1.0	2	0	2	0.8	2	1	3	0.9
60001 to 70,000	0	0	0	0.0	3	4	7	2.9	3	4	7	2.0
70001 to 80,000	0	0	0	0.0	1	2	3	1.2	1	2	3	0.9
80001 to 90,000	0	0	0	0.0	0	0	0	0.0	0	0	0	0.0

90001 to 100,000	3	4	7	6.7	30	14	44	18.2	33	18	51	14.7
100,000 and above	0	1	1	1.0	0	0	0	0.0	0	1	1	0.3
No response	13	20	33	31.7	33	10	43	17.8	46	30	76	22.0
<b>Total</b>	<b>49</b>	<b>55</b>	<b>104</b>	<b>100.0</b>	<b>200</b>	<b>42</b>	<b>242</b>	<b>100.0</b>	<b>249</b>	<b>97</b>	<b>346</b>	<b>100.0</b>

## LAND STATUS

Land ownership is an important factor in case a household will be affected by the project and relocation is unavoidable. Based on table 25, out of the total 346 respondents only 37 or 10.7% have title for their land. Most of the respondents (88.4%) or have no title for their land. This implies that they do not own the land.

The data per barangay indicated that most of the respondents in Upper Ulip (73%) own their land, while only 27.0% of the respondents in Diwalwal own their land.

**Table 25. Land Ownership**

Brgy.	YES	%	NO	%	No Response	%	Total	%
Upper Ulip	27	73.0	77	25.2	0	0.0	104	30.1
Diwata	10	27.0	229	74.8	3	100.0	242	69.9
<b>Total</b>	<b>37</b>	<b>10.7</b>	<b>306</b>	<b>88.4</b>	<b>3</b>	<b>0.9</b>	<b>346</b>	<b>100.0</b>

Those who claimed they have title for their land were asked if their title is under their name. There were 13 or 29.7% who said their land title is under their name, while 23 or 62.2% said the title is not under their name. This suggests that the title could have been named to other members of the household. Only one respondent did not answer.

It must be noted that during the conduct of the survey, the interviewees were not requested to present their land title to the interviewers. Responses reflected are merely based on what the respondents disclosed.

**Table 26. Respondents' Responses on Whether the Land is Titled to Them**

Brgy.	YES	%	NO	%	No Response	%	Total	%
Upper Ulip	11	84.6	15	65.2	1	100.0	27	73.0
Diwata	2	15.4	8	34.8	0	0.0	10	27.0
<b>Total</b>	<b>13</b>	<b>35.1</b>	<b>23</b>	<b>62.2</b>	<b>1</b>	<b>2.7</b>	<b>37</b>	<b>100.0</b>

Out of the 37 respondents who said they have title for their land were asked what kind of title they have. There were 11 (29.7%) out of the 37 who claimed that they hold a Certificate of Ancestral Domain Title (CADT), while 8 (21.6%) said that they hold individual title. On the other hand, 18 (48.6%) of those who claimed they own the land did not give answer at all. This means that they do not know what kind of ownership claim they have for their land. Probably they were just told that their land is titled.

**Table 27. Type of Title for the Land**

Brgy.	CADT	%	Individual Title	%	No Response	%	Total	%
Upper Ulip	8	72.7	8	100.0	0	0.0	16	43.2
Diwalwal	3	27.3	0	0.0	18	100.0	21	56.8
<b>Total</b>	<b>11</b>	<b>29.7</b>	<b>8</b>	<b>21.6</b>	<b>18</b>	<b>48.6</b>	<b>37</b>	<b>100.0</b>

## HOUSING, INFRASTRUCTURE AND INVENTORY OF MOVABLE ASSETS

In terms of house ownership, 261 out of 436 or 75.4% of the respondents said that they own the house; 19.6% said they are just using the house and not paying any rent at all; and, the renters with 2.6%. There is 1.4% who said their house is provided by their employer. In case these households will be affected by the project, then they are entitled to compensations for their houses. This is the point when the project owners and the affected household need to have a dialogue for just compensation packages.

**Table 28. Ownership Status of the House**

Brgy	A	B	C	D	E	F	G	TOTAL
Upper Ulip	87	1	1	15	0	0	0	<b>104</b>
Diwalwal	174	8	4	53	0	0	3	<b>242</b>
<b>TOTAL</b>	<b>261</b>	<b>9</b>	<b>5</b>	<b>68</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>346</b>
<b>%</b>	<b>75.4</b>	<b>2.6</b>	<b>1.4</b>	<b>19.7</b>	<b>0.0</b>	<b>0.0</b>	<b>0.9</b>	<b>100.0</b>

Legend: A-Owner of the house; B-Renter; C-Provided by employer; D-User not paying rent; E- Others; F-I do not know; G-No response

The external materials used in houses are part of the bases in the determination of housing compensation packages. Based in Table 18, it can be gleaned that most of the respondents (62.1%) used mixed materials for their house e.g. plywood, bamboo, etc.; followed by those who used half concrete/half wood for their external materials with 21.1%; and, those who used half concrete/half bamboo with 3.8%. Only 9.0% used all-concrete for the external wall of their house and most of them resides in Upper Ulip.

It can be concluded that almost all of the respondents actually used some semi-permanent materials for their houses. In case of relocation, materials such as wood

**Table 29. External House materials**

Brgy	A	B	C	D	E	F	G	TOTAL
Upper Ulip	30	6	22	1	44	0	1	<b>104</b>
Diwalwal	43	7	9	2	171	2	8	<b>242</b>
<b>TOTAL</b>	<b>73</b>	<b>13</b>	<b>31</b>	<b>3</b>	<b>215</b>	<b>2</b>	<b>9</b>	<b>346</b>
<b>%</b>	<b>21.1</b>	<b>3.8</b>	<b>9.0</b>	<b>0.9</b>	<b>62.1</b>	<b>0.6</b>	<b>2.6</b>	<b>100.0</b>

Legend: A-Half concrete/half wood; B-Half concrete/half bamboo; C-Concrete; D-Makeshift materials (cartons); E-Others Mixed materials) ; F-I do not know; G-No response

Movable assets are assets owned by the household such as appliances and furniture that they can bring with them in case they will be relocated. Data shows that the almost all of the respondents do own appliances such as television, radio, among others as well as furniture such as dining set, leaving room sets, etc. Only 14 respondents did not give answer at all. Responses given are more than 100% since multiple responses are allowed in this part of the survey.

**Table 30. Movable Assets in your Household**

Brgy	A	B	C	*Total Number of Responses	TOTAL (%)
<b>Upper Ulip</b>	<b>92</b>	<b>90</b>	<b>6</b>	<b>188</b>	<b>55.3</b>
<b>Diwalwal</b>	<b>215</b>	<b>225</b>	<b>8</b>	<b>448</b>	<b>77.2</b>
<b>TOTAL</b>	<b>307</b>	<b>315</b>	<b>14</b>	<b>636</b>	<b>183</b>

Legend: A-Appliances; B-Furniture; C-No response

\*Multiple Response allowed



## HEALTH AND SANITATION

The respondents were asked about water sources for both domestic and livelihood uses. Almost 50% of the respondents disclosed that their source of water is plumbing inside house; followed by those who said they have other sources such as spring and they have faucets or hose inside their house with 41.6%; and those who said they have water pumps with 4.9%. Very few or less than 2% disclosed they have well-water. Others did not answer which means they do not know what their water source is. It is, however, good to note that Barangay Upper Ulip and Diwalwal have available water for their daily use.

On a per barangay basis, majority of the respondents in Diwalwal have water plumbing inside their house while majority of those in Upper Ulip get their water from the spring.

**Table 31. Sources of Domestic Water**

Brgy	A	B	C	D	E	TOTAL
Upper Ulip	37	11	3	53	0	104
Diwalwal	127	6	3	91	15	242
<b>TOTAL</b>	164	17	6	144	15	346
<b>%</b>	<b>47.4</b>	<b>4.9</b>	<b>1.7</b>	<b>41.6</b>	<b>4.3</b>	<b>100.0</b>
Legend: A-Plumbing inside the house; B-Water pump; C-Well water; D-Others (Faucet, Hose, Spring); E-No Response						

In terms of sanitation facilities (Table 32), majority of the respondents revealed that they have toilet flush tank located inside their house; followed by those who have toilet flush tank located outside their house and those without flush tank toilets. Others (3.2%) use public toilets. However, there are 2.6% or 9 households who have no toilet at all. Although this result is not alarming, this still has to be addressed. If people without toilets continue to do what they practice, they can possibly contribute to the pollution of water sources in their area.

Looking at the figures, it can be concluded that there are more respondents in Diwalwal who do not have toilets compared to Upper Ulip.

**Table 32. Sanitation facility**

Brgy	A	B	C	D	E	TOTAL
Upper Ulip	53	33	13	3	2	104
Diwata	105	79	43	8	7	242
<b>TOTAL</b>	158	112	56	11	9	346
<b>%</b>	<b>45.7</b>	<b>32.4</b>	<b>16.2</b>	<b>3.2</b>	<b>2.6</b>	<b>100.0</b>
Legend: A- Toilet flush tank located inside the house; B- Toilet flush tank located outside the house; C- Without flush tank; D-Public Toilet; E-Others (no toilet)						

One way of ensuring that water sources in a given area will not be polluted is the availability of sewerage system. When the respondents were asked about it, almost all (96.2%) of the respondents claimed they sewerage system inside their house while 3.8% said they do not have. There are more respondents in Diwalwal who have no sewerage system compared to Upper Ulip.

**Table 33. Availability of Sewerage System inside the House**

Brgy.	YES	%	NO	%	Total	%
Upper Ulip	100	30.0	4	30.8	104	30.1
Diwata	233	70.0	9	69.2	242	69.9
<b>Total</b>	<b>333</b>	<b>96.2</b>	<b>13</b>	<b>3.8</b>	<b>346</b>	<b>100.0</b>

Those who said they have sewerage system were asked what type do they have. Most (80%) of them said they have septic tank and 16.8% said they have common sewerage facility. Unfortunately, 2.1% revealed their toilet wastes are directly discharged to the river. This is one of the reasons why Naboc river have high fecal content. According to Agenparl.eu (2019), the Environmental Management Bureau (EMB) noted that wastewater from the households also contaminated Naboc River. Fecal Coliform in the river was reported as high as most probable number (mpn) per 100 milliliter of water. The standard number of which is only 200 mpn per milliliter of water.

**Table 34. Type of Sewerage System**

Brgy	A	B	C	D	E	TOTAL
Upper Ulip	1	93	6	0	0	100
Diwata	55	175	1	0	2	233
<b>TOTAL</b>	56	268	7	0	2	333
%	16.8	80.5	2.1	0.0	0.6	100.0

Legend: A- Common sewerage system; B- Septic tank; C- Discharged directly to a river; D- Others (compost pit, no toilet); E-I do not know

In Table 35, it can be gleaned that the solid waste generated by the households in the two barangays are disposed in different ways. The highest number of the respondents (35%) said that they disposed their garbage irregularly; followed by those whose garbage are collected regularly by the municipality with 28.2%; and, other ways such as just dumping it near their house and composting.

**Table 35. Solid Waste Disposal**

Brgy	A	B	C	D	E	F	G	TOTAL
Upper Ulip	43	39	8	23	79	6	3	201
Diwata	82	116	2	24	13	4	1	242
<b>TOTAL</b>	125	155	10	47	92	10	4	443
%	28.2	35.0	2.3	10.6	20.8	2.3	0.9	100.0

Legend: A-Municipality collects regularly; B-Disposed irregularly; C-Disposed to the river/lake; D-Burning; E-Others; F-I do not know; G-NR

In terms of availability of health centers in their barangay, almost all (98.6%) of the respondents said they have barangay health centers. This implies that the respondents have access to basic health services in their area.

**Table 36. Health Centers**

Brgy.	YES	%	NO	%	No Response	%	Total	%
Upper Ulip	102	29.9	1	50.0	1	33.3	104	30.1
Diwalwal	239	70.1	1	50.0	2	66.7	242	69.9
<b>Total</b>	341	98.6	2	0.6	3	0.9	346	100.0

The respondents were asked about the distance of their residence from the health centers. Most of the respondents (72.4%) revealed that their health center is more than 1 kilometer away from their residence. It was disclosed during the survey that they have public transport they could hire in going to the health center. The road may be rough at times, but somehow they manage to get there when needed.

**Table 37. Distance of their Residence from the Health Center**

Brgy.	Less than 1km	%	More than 1km	%	No Response	%	Total	%
Upper Ulip	43	78.2	52	21.1	4	10.3	99	29.0
Diwata	12	21.8	195	78.9	35	89.7	242	71.0
<b>Total</b>	55	16.1	247	72.4	39	11.4	341	100.0

## MEMBERSHIP TO GOVERNMENT HEALTH AND RETIREMENT SYSTEMS

In term of their membership to the government health systems, the respondents were asked whether they are members to the Social Security System (SSS). It is good to note that most (85.2%) of the respondents are members of the SSS. This is a good indicator that they are concerned of their health and senior citizens' pension.

Out of the total 104 respondents in Upper Ulip, 14 are non SSS members while out of the 242 respondents in diwalwal, 31 are non- members. Less than 2% did not give answer at all. Generally, there are a total of 45 respondents who are non-SSS members. This may not be very alarming considering that they only constitute 13% of the total respondents. However, it is to the advantage of this respondents to enroll themselves in the future for their protection. It must be noted that not all of the respondents are employed in a company or agencies, hence it can be assumed that they pay their SSS contribution voluntarily.

**Table 38. Membership to Social Security System**

Brgy.	YES				NO				NO Response				TOTAL			
	Male	Female	ST	%	Male	Female	ST	%	Male	Female	ST	%	Male	Female	Total	%
Upper Ulip	40	49	89	30.2	9	5	14	31.1		1	1	16.7	49	55	104	30.1
Diwalwal	175	31	206	69.8	22	9	31	68.9	3	2	5	83.3	200	42	242	69.9
Total	215	80	295	85.2	31	14	45	13.0	3	3	6	1.73	249	97	346	100.0

The Philippine Health Insurance Corporation, commonly known as PhilHealth, is a tax-exempt Government Corporation attached to the Department of Health for policy and coordination and guidance. It was established to provide health insurance and coverage and ensure affordable, acceptable, available and accessible health care services for all citizens of the Philippines. It serves as the means for the healthy to pay for the care of the sick and those who can afford medical care to subsidize those who cannot. The program shall be limited to paying for the utilization of health services by the covered beneficiaries (PhilHealth, 2014).

Based in Table 39, majority (62.7%) of the respondents are PhilHealth members, 217 respondents out of 346. On the other hand, 126 out of 346 (36.4%) are non- members. Less than 1% of the respondents did not give answer at all. There are more male respondents in diwalwal who are members of PhilHealth compared to the females. The same holds true also in Upper Ulip.

**Table 39. Membership to Philippine Health Insurance**

Brgy.	YES				NO				NO Response				TOTAL			
	Male	Female	ST	%	Male	Female	ST	%	Male	Female	ST	%	Male	Female	Total	%
Upper Ulip	25	21	46	21.2	24	34	58	46.0			0	0.0	49	55	104	30.1
Diwalwal	147	24	171	78.8	52	16	68	54.0	1	2	3	100.0	200	42	242	69.9
Total	172	45	217	62.7	76	50	126	36.4	1	2	3	0.9	249	97	346	100.0

## Part II. Perception Survey Result

This perception survey is conducted in order to find out the different concerns of the respondents about the project. It will also provide them with the opportunity to express their views.

Covered in the perception survey are the social, economic, political/institutional and environmental concerns of the respondents about the project. The respondents were also asked about their willingness to work in the project, willingness to attend public consultations, their perceptions about the positive and negative impacts of the project, expected development in the area as a result of project implementation, among others.

Further, through the survey, the project social acceptability can also be gauged. Social acceptability is considered crucial to the development of any project within a given area because the stakeholders' concerns need to be taken into consideration during the planning phase of the project. This is to avoid potential issues and conflicts in the future. The stakeholders' understanding about the project is also important as it will significantly contribute to the economical, sustained and peaceful project implementation.

Social acceptance is said to depend on the stakeholders' perceptions about the benefits, inconveniences, consequences whether negative or positive, as a result of the project implementation. Hence, this perception survey.

### Concerns about the Project

Social concerns are topics, issues and values that are most prevalent in the minds of the community. Social concerns when not clarified or answered may cause anxiety. In Table 40, it can be gleaned that the respondents have high to very high social concerns with a mean range of 4.31 to 4.55. Their highest concern is on the displacement of their homes which implies that this is the most prevalent social issue in their minds. Resettlement, being one of the highest concerns of the respondents must be objectively addressed in case the residents in the area will be affected by the project.

According to the International Hydropower Association Limited (2016), when resettlement cannot be avoided, it has the potential to add more project complexity to the project, regardless of the number of people to be relocated. Resettlement covers a whole lot of effects on the affected families perhaps because of their personal attachment to their current place, neighbors, associations, among others. If possible, those who will be resettled/relocated should be involved in choosing the compensation methods.

Moreover, the respondents have high concerns on the destruction of property improvement, social disintegration (when their new location will be far from their family and friends), distance from place of work and school of children in case of resettlement, opening of access roads and absence of opportunity to attend public consultations with a mean of 4.31 to 4.46. This implies that the respondents want to be consulted as far as the project is concerned.

Based on Barangay data and gender, it can be concluded that the males in Upper Ulip and Diwalwal have very high social concerns, both with a mean of 4.54 and 4.51. The females have high social concern. The overall mean obtained is 4.41 of high social concern.

It is not expected that the Project will have direct impacts on any barangay infrastructure or public facilities. Further, no impacts to cultural heritage are expected, as there are no graves or shrines identified within the Project footprint.

**Table 40. Social Concerns**

Social Concerns	Upper Ulip		Diwalwa		$\bar{x}$
	Male	Female	Male	Female	
1. Displacement of homes/Relocation	4.70	4.45	4.68	4.36	<b>4.55</b>
2. Destruction of property improvement e.g. fences without compensation	4.49	4.30	4.36	4.28	<b>4.36</b>
3. Social disintegration (my new location maybe far from my friends and family)	4.55	4.49	4.41	4.40	<b>4.46</b>
4. Distance from place of work in case of resettlement	4.55	4.40	4.47	4.30	<b>4.43</b>

5. Distance from schools of children in case of resettlement	4.51	4.29	4.57	4.10	<b>4.37</b>
6. Opening of access roads for the project	4.39	3.84	4.62	4.38	<b>4.31</b>
7. No opportunity to attend public consultations	4.63	4.49	4.51	4.10	<b>4.43</b>
<b>Total</b>	<b>4.54</b>	<b>4.32</b>	<b>4.51</b>	<b>4.27</b>	<b>4.41</b>

**Legend: 4.50 – 5 Very High Concern; 3.50-4.49 Highly Concern; 2.50 -3.49 Moderately High Concern; 1.50 -2.49 Low Concern; 0.5 -1.49 Very Low Concern**

The respondents were asked about their economic concerns on the project. Survey results revealed that they have a very high economic concern as far the non-inclusion of women in job opportunities and not prioritizing local residents in job hiring, with a mean of 4.63 and 4.58, respectively. This implies that the respondents are willing to work in the project, if they are given the opportunity and if they are qualified.

According to Wilmot (2012) “one of the reasons project-affected people have been having a difficult time creating livelihoods from the rehabilitation and resettlement package is the disconnection between their original lifestyles and livelihoods, and the compensation provided”. Hence, the result of this survey can aid the project owner to plan well on what alternative livelihood they can offer to the residents in the area in case relocation is unavoidable.

It must be noted that some of the respondents are actually involved in mining activities in the area. Therefore, it would not much of a challenge to actually harness their skills if they are interested to work with the company. Obviously, the result revealed that the respondents wanted to be give priority in job vacancies.

**Table 41. Economic Concerns**

Economic Concerns	Upper Ulip		Diwata		$\bar{x}$
	Male	Female	Male	Female	
1. Loss of source of income for agricultural lands	4.71	4.55	4.42	4.05	<b>4.43</b>
2. Not prioritizing local residents in job hiring	4.79	4.69	4.52	4.34	<b>4.59</b>
3. Loss of income from business	4.77	4.50	4.28	4.24	<b>4.45</b>
4. Non-inclusion of women in job opportunities	4.75	4.81	4.57	4.39	<b>4.63</b>
<b>Total</b>	<b>4.75</b>	<b>4.63</b>	<b>4.49</b>	<b>4.25</b>	<b>4.53</b>

**Legend: 4.50 – 5 Very High Concern; 3.50-4.49 Highly Concern; 2.50 -3.49 Moderately High Concern; 1.50 -2.49 Low Concern; 0.5 -1.49 Very Low Concern**

Based on Table 42, it can be gleaned that less than 10% of the respondents have business in their barangay. This implies that there not much business ventures that will be affected in the project implementation. The determination of business existing in the area is necessary because the compensation package for them, in case they will be affected, will vary compared to households that will be affected.

**Table 42. Business within Barangay**

Brgy.	YES				NO				NO Response				TOTAL			
	Male	Female	ST	%	Male	Female	ST	%	Male	Female	ST	%	Male	Female	Total	%
Upper Ulip	5	8	13	39.4	38	45	83	28.2	6	2	8	42.1	49	55	104	30.1
Diwalwal	5	15	20	60.6	175	36	211	71.8	10	1	11	57.9	190	52	242	69.9
<b>Total</b>	<b>10</b>	<b>23</b>	<b>33</b>	<b>9.5</b>	<b>213</b>	<b>81</b>	<b>294</b>	<b>85.0</b>	<b>16</b>	<b>3</b>	<b>19</b>	<b>5.5</b>	<b>239</b>	<b>107</b>	<b>346</b>	<b>100.0</b>

Those who answered they have business were asked of the type of business they have. From the table, it can be gleaned that 50% of them have retailing stores (Sari-Sari store), while the rest are selling food and doing sidewalk vending.



**Table 43. Type of Business**

Brgy	Sari-Sari Store	Selling of food	Sidewalk vendor	No Response	TOTAL
<b>Male</b>					
Upper Ulip	3			2	<b>5</b>
Diwata	7	2	1	5	<b>15</b>
<b>Sub-total</b>	10	2	1	7	<b>20</b>
<b>%</b>	50.0	10.0	5.0	35.0	<b>100.0</b>
<b>Female</b>					
Upper Ulip	4	1	1	2	<b>8</b>
Diwata	3		2		<b>5</b>
<b>Sub-total</b>	7	1	3	2	<b>13</b>
<b>%</b>	53.8	7.7	23.1	15.4	<b>100.0</b>
<b>TOTAL</b>	<b>17</b>	<b>3</b>	<b>4</b>	<b>9</b>	<b>33</b>
<b>%</b>	<b>51.5</b>	<b>9.1</b>	<b>12.1</b>	<b>27.3</b>	<b>100.0</b>

Environmental concerns covered in this survey include land, water, biodiversity, among others. In Table 44, it can be gleaned that the respondents have high to very high environmental concerns with the mean of 4.48 to 4.68. Their highest concern is on the chemical contamination of ground water and rivers with 4.68 or very high. Hence, the project owner needs to ensure the respondents and the residents in the area that the project will not endanger their water resources. This very high concern of the respondents on chemical contamination can be attributed to the fact that Naboc River, which is a major river in the area, is already found contaminated with mercury and cyanide. According to Mellejor (2019) based on studies by the environmental Management Bureau (EMB), the Mines and Geosciences Bureau (MGB), the United Nations Industrial and Development Organization, and other entities on water quality, the Naboc River has high concentration of mercury and incidents of soil erosion and siltation in the river.

Moreover, the respondents have very high concern on chemical waste, cutting of trees, change of landscape, among others. In terms of cutting of trees for the project, it must be noted that a permit is needed to cut trees. Hence, the project owner have to secure the same from the nearest field office of the Department of Environment and Natural Resources (DENR) in case cutting of trees is unavoidable.

The respondents have also very high concern on endangering biodiversity (flora and fauna) within the project area which implies that they want the biodiversity preserved as much as possible. Renewable Sources Coalition (2019) explained that continued human activities and expansion has led to lowered biodiversity. A lack of biodiversity means that future generation will have to deal with increasing vulnerability of plants to pests and fewer sources of fresh water. Some studies have found that lowered biodiversity has as pronounced impact as climate change and pollution on ecosystems, particularly in areas with higher amounts of species extinction.

The overall mean for environmental concern is 4.58 which means that the respondents have very high concern about the environment. The respondents from Upper Ulip have higher environmental concerns compared to the respondents in Diwalwal. Generally, males have higher environmental concerns compared to female respondents.

**Table 44. Environmental Concerns**

Environmental Concerns	Upper Ulip		Diwalwal		$\bar{x}$
	Male	Female	Male	Female	
<b>1. Change of landscape in the place</b>	4.55	4.49	4.55	4.33	<b>4.48</b>
<b>2. Reduction of vegetative cover</b>	4.83	4.67	4.42	4.21	<b>4.54</b>
<b>3. Chemical contamination of ground Water and rivers</b>	4.94	4.87	4.57	4.36	<b>4.68</b>
<b>4. Cutting of trees</b>	4.90	4.84	4.51	4.05	<b>4.57</b>
<b>5. Endangering biodiversity (flora and fauna) within the project area</b>	4.90	4.80	4.52	4.19	<b>4.60</b>
<b>6. Solid waste</b>	4.90	4.85	4.47	4.10	<b>4.58</b>
<b>7. Chemical waste</b>	4.84	4.89	4.54	4.24	<b>4.63</b>
<b>8. Absence of treatment facilities</b>	4.82	4.84	4.58	4.07	<b>4.58</b>

<b>Total</b>	4.83	4.78	4.52	4.19	<b>4.58</b>
--------------	------	------	------	------	-------------

**Legend: 4.50 – 5 Very High Concern; 3.50-4.49 Highly Concern; 2.50 -3.49 moderately high concern; 1.50 -2.49 Low Concern; 0.5 -1.49 Very Low Concern**

On Political/Institutional concerns, it can be concluded that the respondents have high political concerns with a mean ranging 4.29 to 4.48. Their highest concern based on their perception is that endorsement from the local officials is very important with 4.48; followed by their concern that local officials must be involved in the planning phase of the project with a mean of 4.41; and, women must be involved in the planning phase and public consultations with a mean of 4.33. It can be concluded that the respondents really want their local officials to be informed and involved as far as the project is concerned.

The overall mean obtained is 4.38 which means that they have high political concern. Comparing the data by barangays, it shows that male respondents in Diwalwal have higher political concerns compared to the male respondents in Upper Ulip. The result is opposite for the female respondents – Upper Ulip females have higher political concerns compared to the females in Diwalwal.

**Table 45. Political/Institutional Concerns**

Political Concerns	Upper Ulip		Diwalwal		$\bar{x}$
	Male	Female	Male	Female	
<b>1. Endorsement from the local officials is very important.</b>	4.29	4.58	4.59	4.48	<b>4.48</b>
<b>2. Local officials must be a member of the project</b>	4.33	4.45	4.18	4.19	<b>4.29</b>
<b>3. Local officials must be involved in the planning phase of the project</b>	4.35	4.53	4.52	4.26	<b>4.41</b>
<b>4. Women must be involved in the planning phase and public consultations</b>	4.37	4.41	4.70	3.86	<b>4.33</b>
<b>Total</b>	4.33	4.49	4.50	4.20	<b>4.38</b>

**Legend: 4.50 – 5 Very High Concern; 3.50-4.49 Highly Concern; 2.50 -3.49 Moderately High Concern; 1.50 -2.49 Low Concern; 0.5 -1.49 Very Low Concern**

When asked about their willingness to work with the company, results revealed that almost all of the respondents want to work with the company if there are opportunities. Only 5.5% said they do not want to work and 9% did not give answer at all. This suggests that the respondents would still want to augment their current income. This can also prompt the company to identify and probably offer alternative livelihood in the area as part of their Corporate Social Responsibility (CSR).

**Table 46. Willingness to work with the company**

Brgy.	YES				NO				NO Response				TOTAL			
	Male	Female	ST	%	Male	Female	ST	%	Male	Female	ST	%	Male	Female	Total	%
<b>Upper Ulip</b>	43	50	93	29.2	4	3	7	36.8	2	2	4	44.4	49	55	104	30.1
<b>Diwata</b>	190	35	225	70.8	9	3	12	63.2	1	4	5	55.6	200	42	242	69.9
<b>Total</b>	233	85	318	91.9	13	6	19	5.5	3	6	9	2.6	249	97	346	100.0

Table 47, it can be gleaned that the respondents have varied preferred type of work. Majority or 57.9 percent want to be laborers in the company.

The result shows that even female respondents want to become laborers also. Further, it can be seen that there are also respondents who can be potentially hired by the company such as those who can do electrical works with 11.9%. There are also a few who can do mining work, masonry, driving and masonry. Others revealed they are willing to work according to their capabilities. No response constitute only 3.5% or 11 out of the total 346 respondents.

**Table 47. Type of Work the Respondents can do**

Work	Upper Ulip				Diwata				Total			
	Male	Female	ST	%	Male	Female	ST	%	Male	Female	Total	%
<b>Cleaner</b>		3	3	3.2			0	0.0	0	3	3	0.9
<b>Computer Literate</b>		1	1	1.1			0	0.0	0	1	1	0.3

Electrical Works	2	2	4	4.3	32	2	34	15.3	34	4	38	11.9
For my son to have a Work		1	1	1.1			0	0.0	0	1	1	0.3
Labandera		2	2	2.2			0	0.0	0	2	2	0.6
Laborer	22	24	46	49.5	122	16	138	62.2	144	40	184	57.9
Mason	6	3	9	9.7	17		17	7.7	23	3	26	8.2
Mining		1	1	1.1	1		1	0.5	1	1	2	0.6
Plumber		1	1	1.1			0	0.0	0	1	1	0.3
Suited to my Capabilities		10	10	10.8		6	6	2.7	0	16	16	5.0
Tailor		1	1	1.1			0	0.0	0	1	1	0.3
Driver	1		1	1.1			0	0.0	1	0	1	0.3
Any	12		12	12.9	15	4	19	8.6	27	4	31	9.7
No response		1	1	1.1	3	7	10	4.5	3	8	11	3.5
<b>Total</b>	<b>43</b>	<b>50</b>	<b>93</b>	<b>29.2</b>	<b>190</b>	<b>35</b>	<b>225</b>	<b>70.7</b>	<b>233</b>	<b>85</b>	<b>318</b>	<b>100.0</b>

### Willingness to Attend Public Consultation

In Table 48, it can be gleaned that the respondents are highly interested to attend the public consultation. They are highly interested on topics such as project design, project impacts on livelihood and environment, local endorsements and compliance to government regulations with a mean ranging from 4.29 to 4.46. The male respondents in Upper Ulip have a very high interest on all the topics stated in the table with a mean of 4.80 while the males in Diwalwal have high level of interest with a mean of 4.38. Female respondents in Upper Ulip have very high interest while females in Diwalwal have only high interest. In general, it can be concluded that the respondents have high level of interest with a mean of 4.37.

**Table 48. willingness to Attend Public Consultation**

Environmental Concerns	Upper Ulip		Diwalwal		$\bar{x}$
	Male	Female	Male	Female	
Project Design	4.83	4.56	4.58	3.85	4.46
Project Impacts on Livelihood and environment	4.78	4.62	4.44	3.85	4.42
Local endorsements	4.80	4.55	4.18	3.63	4.29
Compliance to government regulations	4.80	4.69	4.33	3.65	4.37
Total	4.80	4.61	4.38	3.75	4.39

Legend: 4.50 – 5 Very High; 3.50-4.49 High; 2.50 -3.49 Moderately High; 1.50 -2.49 Low; 0.5 - 1.49 Very Low

### Acceptance of the Project

After getting all their responses on their concerns about the project, the respondents were asked on their level of acceptance. Results revealed that the respondents highly accept the project with an overall mean of 4.15. However, their acceptance is also subject to the fact that their concerns have to be objectively addressed by the project owner.

**Table 49. Acceptance of the Project**

Environmental Concerns	Upper Ulip		Diwalwal		$\bar{x}$
	Male	Female	Male	Female	
Acceptance	4.10	4.04	4.64	3.81	4.15

Legend: 4.50 – 5 Very High; 3.50-4.49 High; 2.50 -3.49 Moderately High; 1.50 -2.49 Low; 0.5 - 1.49 Very Low

In order to further measure the respondents' perceptions, they were asked to rate the potential hindrances for their project acceptance. The highest potential hindrance is on the non-assurance that the locals will be given priority in job hiring in case they are qualified and non-compliance to government requirements e.g. Environmental compliance Certificate (ECC), both with a mean of 4.36. This means that the respondents concerned about the environment and at the same time having a job in the company.

Another potential hindrance will be on massive destruction of forest for the project with a mean of 4.35. Further, the respondents considered physical dislocation even with compensations as a highly potential hindrance to project acceptance. Relocation or physical dislocation is quite a sensitive concern among the affected households, hence this should be dealt with objectively.

**Table 50. Potential Hindrances for Accepting the Project**

statements	Upper Ulip		Diwata		$\bar{x}$
	Male	Female	Male	Female	
1. Physical dislocation even with compensations	4.14	4.15	3.92	3.69	<b>3.97</b>
2. Non-endorsement by local officials	3.51	4.22	4.32	3.71	<b>3.94</b>
3. Non-assurance on priority jobs for locals	4.18	4.58	4.60	4.07	<b>4.36</b>
4. Non-compliance to government requirements e.g. ECC	4.29	4.55	4.57	4.02	<b>4.36</b>
5. Absence of Public Consultation	4.27	4.58	4.46	3.90	<b>4.30</b>
6. Massive destruction of forest areas	4.31	4.69	4.55	3.86	<b>4.35</b>

**Legend: 4.50 – 5 Very High hindrance; 3.50-4.49 High hindrance; 2.50 -3.49 Moderately High hindrance; 1.50 -2.49 Low hindrance; 0.5 -1.49 Very Low hindrance**

Table 51 are the respondents' response on the potential positive impact of the project. The responses are more than the total number of respondents because multiple responses are allowed on this question.

The perception of the respondents on the potential positive impact of the project are varied. On top of the list is that they believe more income will come with 34.4%; followed by economic development in the area with 31.2%; and, infrastructure development with 28.7%. The rest said they are hoping the project will offer scholarship program, community development, increase in community population due to more job opportunities, lively community, more benefits for the employees, road development for easy transportation, among others.

The females in Diwalwal gave the highest number of potential positive project impacts, followed by the females in Upper Ulip.

**Table 51. Possible Positive Impacts\***

Potential Positive impact	Upper Ulip				Diwalwal				Total			
	Male	Female	ST	%	Male	Female	ST	%	Male	Female	Total	%
More Income	45	42	<b>87</b>	<b>42.0</b>	30	164	<b>194</b>	<b>31.8</b>	75	206	<b>281</b>	<b>34.4</b>
Economic Development	29	33	<b>62</b>	<b>30.0</b>	33	160	<b>193</b>	<b>31.6</b>	62	193	<b>255</b>	<b>31.2</b>
Infrastructure development	27	30	<b>57</b>	<b>27.5</b>		178	<b>178</b>	<b>29.1</b>	27	208	<b>235</b>	<b>28.7</b>
Others:								<b>0.0</b>			<b>0</b>	<b>0.0</b>
Scholarship Program	1		<b>1</b>	<b>0.5</b>	30		<b>30</b>	<b>4.9</b>	31		<b>31</b>	<b>3.8</b>
Benefits given to the employees					1	1	<b>2</b>	<b>0.3</b>	1	1	<b>2</b>	<b>0.2</b>
Development within the community						1	<b>1</b>	<b>0.2</b>		1	<b>1</b>	<b>0.1</b>
Increase in population within the community due to more job opportunity						1	<b>1</b>	<b>0.2</b>		1	<b>1</b>	<b>0.1</b>
Lively Community						9	<b>9</b>	<b>1.5</b>		9	<b>9</b>	<b>1.1</b>
More benefits for the employees						1	<b>1</b>	<b>0.2</b>		1	<b>1</b>	<b>0.1</b>
Pollution Free Barangay						1	<b>1</b>	<b>0.2</b>		1	<b>1</b>	<b>0.1</b>
Road development for easy transportation						1	<b>1</b>	<b>0.2</b>		1	<b>1</b>	<b>0.1</b>
<b>Total</b>	<b>102</b>	<b>105</b>	<b>207</b>	<b>25.3</b>	<b>94</b>	<b>517</b>	<b>611</b>	<b>74.7</b>	<b>196</b>	<b>622</b>	<b>818</b>	<b>100.0</b>

\*Multiple response allowed

When the respondents were asked about their perceptions on the potential negative effects of the project, they revealed that it can destroy the vegetative cover of the area, it can cause chemical contamination of water and biodiversity loss.

**Table 52. Potential Negative Effects\***

Potential Negative impact	Upper Ulip				Diwata				Total			
	Male	Female	ST	%	Male	Female	ST	%	Male	Female	Total	%
Destruction of vegetative cover	37	36	73	30.9	32	171	203	36.0	69	207	276	34.5
Chemical contamination of water	51	46	97	41.1	27	136	163	28.9	78	182	260	32.5
Loss of biodiversity	33	33	66	28.0	31	167	198	35.1	64	200	264	33.0
<b>Total</b>	<b>121</b>	<b>115</b>	<b>236</b>	<b>29.5</b>	<b>90</b>	<b>474</b>	<b>564</b>	<b>70.5</b>	<b>211</b>	<b>589</b>	<b>800</b>	<b>100.0</b>

\*Multiple response allowed

The respondents were asked of the three development priorities they want to see in their barangay as a result of project implementation. They disclosed that they expect sustainable livelihood (37.9%), safe drinking water (35.2%), and infrastructure development/improved accessibility (26.9%).

**Table 53. Expected Developments**

Development	Upper Ulip				Diwata				Total			
	Male	Female	ST	%	Male	Female	ST	%	Male	Female	Total	%
Infrastructure/accessibility	33	34	67	28.4	27	128	155	26.3	60	162	222	26.9
Safe drinking water	41	35	76	32.2	36	179	215	36.4	77	214	291	35.2
Sustainable livelihood	46	47	93	39.4	28	192	220	37.3	74	239	313	37.9
<b>Total</b>	<b>120</b>	<b>116</b>	<b>236</b>	<b>28.6</b>	<b>91</b>	<b>499</b>	<b>590</b>	<b>71.4</b>	<b>211</b>	<b>615</b>	<b>826</b>	<b>100.0</b>

Table 54 shows the feeling of the respondents about the project. Under this item multiple response is allowed, hence the total number of responses is more than the number of total respondents. Results revealed that the highest number of respondents are thankful of the project with 33.2%, around 27% are excited, and 24.4% said they are worried. The respondents who are more worried about the uncertainty on whether they will be affected by the project or they will be relocated. They also worry about their source of income.

Some 16.1% do not know on how they feel about the project during the conduct of the survey. Their attitude is more of "wait and see".

There are more male respondents in Upper Ulip who are excited of the project, while more female respondents in Diwalwal feel the same. Also, more males in Upper Ulip are worried about the project than the males in Diwalwal.

**Table 54. Feelings about the Project\***

Development	Upper Ulip				Diwalwal				Total			
	Male	Female	ST	%	Male	Female	ST	%	Male	Female	Total	%
Excited	31	15	46	35.7	7	61	68	22.3	38	76	114	26.3
Worried	29	21	50	38.8	14	42	56	18.4	43	63	106	24.4
Thankful	15	14	29	22.5	13	102	115	37.7	28	116	144	33.2
I do not know	4		4	3.1	14	52	66	21.6	18	52	70	16.1
<b>Total</b>	<b>79</b>	<b>50</b>	<b>129</b>	<b>29.7</b>	<b>48</b>	<b>257</b>	<b>305</b>	<b>70.3</b>	<b>127</b>	<b>307</b>	<b>434</b>	<b>100.0</b>

\*Multiple response allowed



## Annex 6. List of Invitees

<b>Municipality of Monkayo, Compostela Valley Province</b>	
<b>Mayor</b>	Hon. Ramil L. Gentugaya
<b>Municipal Health Officer</b>	Dr. Olivia Lanaban - Cerbo
<b>Municipal Planning and Development Office</b>	Geronimo O. Balana
<b>Municipal Engineer</b>	Engr. Reynaldo L. Allado
<b>Municipal Agriculturist's Office</b>	Dr. Christopher M. Edjic
<b>Municipal Environment and Natural Resources Office</b>	Evelyn B. Tolentino
<b>Municipal Disaster Risk Reduction Management Office</b>	Alicia C. Cabunoc
<b>Municipal Social welfare and Development Office</b>	Janet M. Panilag
<b>Municipal Tourism Office</b>	Joseph Anthony Crizaldo
<b>DENR XI</b>	Engr. Ruth M. Tawantawan
<b>Department of Health XI</b>	Dr. Annabelle P. Yumang, MD, MCH
<b>Department of Labor and Employment XI</b>	Raymundo G. Agravante
<b>Department of Tourism</b>	Tanya Virginia P. Rabat-Tan
<b>Mines and Geosciences Bureau</b>	Atty. Jasper Alberto H. Lascano
<b>NGO/Cooperatives Sector</b>	
<b>BARANGAY</b>	<b>KAPITAN</b>
Upper Ulip	Hon. Fernando Latiban
Mt. Diwata	Hon. Pedro J. Samillano, Jr.
<b>Indigenous People Representative</b>	Datu Balbin Gubaton

Annex 7. Draft Invitation Letter

September \_\_, 2019

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Subject:           **PUBLIC SCOPING/CONSULTATION**

Dear Sir/Ma'am:

We would like to solicit your participation together with other stakeholders in the public scoping process of the **Philippine Mining Development Corporation** for the **Diwalwal Gold Mining Project** located at the Municipality of Monkayo, Compostela Valley Province.

This Public Scoping is being conducted in connection with the application for an Environmental Compliance Certificate (ECC) of the aforementioned project in the Environmental Management Bureau Central Office (EMB-Central Office) of the Department of Environment and Natural Resources (DENR).

Related thereto, you and your constituents are hereby invited to attend the Public Scoping on \_\_\_\_\_ at \_\_\_\_\_ to be held in \_\_\_\_\_.

For more details, please do not hesitate to contact us.

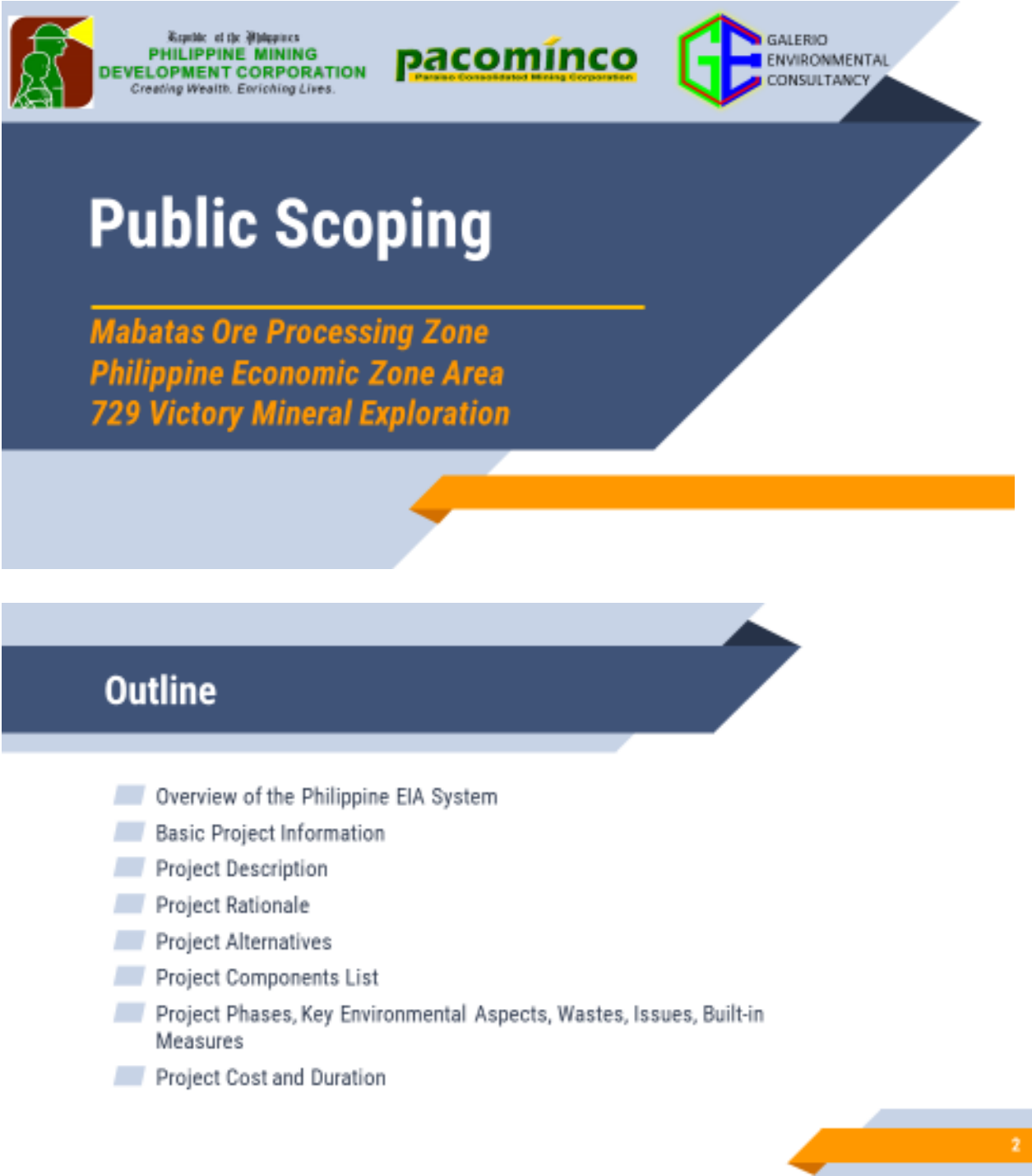
We look forward to your support and valuable participation.

Thank you.

Sincerely yours,

Engr. Esperanza A. Sajul  
Chief, EIAMD

Annex 8. Draft Presentation for Public Scoping



The slide features a header with three logos: the Philippine Mining Development Corporation (PMDC) logo on the left, the Pacominco logo in the center, and the Galerio Environmental Consultancy logo on the right. The PMDC logo includes the text 'Republic of the Philippines PHILIPPINE MINING DEVELOPMENT CORPORATION Creating Wealth. Enriching Lives.' The Pacominco logo includes the text 'Pacocominco (Pacoco Consolidated Mining Corporation)'. The Galerio Environmental Consultancy logo includes the text 'GALERIO ENVIRONMENTAL CONSULTANCY'. The main title 'Public Scoping' is displayed in large white font on a dark blue background. Below the title, the project details are listed in orange text: 'Mabatas Ore Processing Zone', 'Philippine Economic Zone Area', and '729 Victory Mineral Exploration'. An orange arrow points from the project details towards the 'Outline' section. The 'Outline' section is a dark blue bar with the word 'Outline' in white. Below the outline bar, a list of eight items is shown, each preceded by a blue square icon. The items are: 'Overview of the Philippine EIA System', 'Basic Project Information', 'Project Description', 'Project Rationale', 'Project Alternatives', 'Project Components List', 'Project Phases, Key Environmental Aspects, Wastes, Issues, Built-in Measures', and 'Project Cost and Duration'. An orange arrow points from the bottom right of the slide towards the 'Outline' section.

**Public Scoping**

*Mabatas Ore Processing Zone  
Philippine Economic Zone Area  
729 Victory Mineral Exploration*

**Outline**

- Overview of the Philippine EIA System
- Basic Project Information
- Project Description
- Project Rationale
- Project Alternatives
- Project Components List
- Project Phases, Key Environmental Aspects, Wastes, Issues, Built-in Measures
- Project Cost and Duration

2

## The Philippine EIA System

### Pursuant to PD 1586

"Establishing an Environmental Impact Statement (EIS) System including other environmental management related measures and for other purposes"

3



## UNSA MAN ANG EIA?



usa kini ka paagi sa pag plano sa usa ka proyekto nga kinahanglan buhaton aron makita/masayod sa epekto sa usa ka proyekto kung angay ba kini para sa atong kinaiyahan ug sa mga lumulupyo sa lugar nga tukuran niini.



tun-an sa siyentipiko nga pamaagi ang epekto sa usa ka proyekto sa kinaiyahan sama sa yuta, tubig, hangin, mananap, mga kakahoyan, sagbot, mga hayop sa dagat, isda ug uban pa.

4

## EIA STUDY PROCESS



5

## BASIC PROJECT INFORMATION

6



## PROJECT INFORMATION

<b>Name of Project</b>	Diwalwal Gold Mining Project
<b>Location</b>	Barangay Mt. Diwata and Barangay Upper Ulip, Monkayo, Compostela Valley Province
<b>Nature of Project</b>	Mining Category A: Environmentally Critical Project
<b>Project Size</b>	2,000 metric tons per day (MTPD) 2,020-hectare Mineral Reservation Area

7

## PROPONENT'S PROFILE

<b>Proponent Name</b>	Philippine Mining Development Corporation (PMDC)
<b>Address</b>	Room No: 27, GRDC Building, Km.7 J.P. Laurel Ave, Lanang, Davao City, 8000 Davao del Sur
<b>Authorized Signatory/Representative to apply for ECC</b>	Atty. Alberto B. Sipaco Jr.
<b>Contact details</b>	<a href="tel:0822358671">(082) 235 8671</a>

8

## PROJECT DESCRIPTION



Figure 1. Project Location

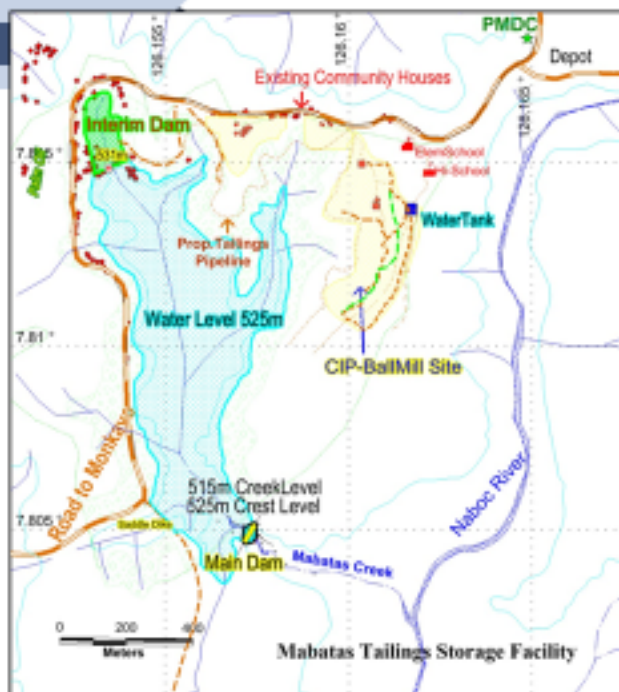


Figure 2. Location map and development plan of the Mabatas tailings storage facility (Source: PMDC)

## Project Location and Area

### **729 Victory Mineral Exploration**

Mine development and production are focused at 600 masl and below in Barangay Mt. Diwata, Monkayo, Compostela Valley Province.

### **Mabatas Processing Site and Tailings Storage Facility**

The site of the Mabatas Processing and Tailing Storage Facility is within the 2,020-hectare mining and development area of DMRA at Barangay Upper Ulip, Monkayo, Compostela Valley Province. Carbon-in-pulp (CIP) plants as well as existing ball mills which were relocated at Mabatas Processing Zone contains an area of about 20 hectares. Mabatas Tailing Storage covers an area of 41 hectares.

### **Diwalwal Special Economic Zone and Jewelry Park**

It is a 300-hectare mixed-use development project which will be established in Tagbanao Area, Sitio Depot, Barangay Upper Ulip, Monkayo, Compostela Valley Province. This type of ecozone is the first of its kind that will be promoted by PMDC in partnership with Philippine Economic Zone Authority (PEZA).

11

## Project Rationale

The Diwalwal Mineral Reservation covers a total land area of 8,100 hectares. During the first phase of the project, only 2,020 hectares out of the 8,100 hectares will be developed. The proposed Diwalwal Gold Mining Project is owned and managed by Philippine Mining Development Corporation (PMDC), a corporation wholly-owned and controlled by the government. PMDC spearheads for responsible mining throughout the country by utilizing best practices and technologies available. To serve as the government's arm in generating revenue and to develop progressive communities through responsible mining is the mission of PMDC. In this project, PMDC ventured with Pacominco through an agreement to develop the Diwalwal Mining area.

The proposed gold mining project shall proceed with the operation phase. The Feasibility Study of the Diwalwal Gold Project was completed on May 2007 and had reported a gold resource of approximately 7.266 million tons with grade of 6.59gAwt. This process extracts commercially viable concentrations of ore/mineral deposits in 729 Victory Mineral Exploration Zone (below elevation 600 masl).

12

## Project Alternatives

### Siting/Location

Diwalwal Special Economic Zone

- designed for manufacturing industries related with gold processing will attract other investments for local development.
- generate additional employment and economic activities to the host community.

### Process/Technology

Efficient and New Gold Processing Plant Operation

- a large equipment for economy and optimum gold recovery.
- develop new design to optimize recycling of toxic chemicals in order to minimize waste and reduce operating cost to process low grade gold bearing veins
- Engineering design in tailings storage facility will be adopted for possible zero effluent and pollution.

13

## Project Component List

Project Components	Area/Capacity	Unit
Tailings Storage Facility	41	hectares
	4,000,000	cubic meters
CIP-Ball Mill Relocation Site	20	hectares
Diwalwal Special Economic Zone (PEZA)	300	hectares
729 Victory Mineral Reservation	784	hectares
Gold Processing Plant	27	hectares
	2,000	metric tons per day
Water tank	64	cubic meters

14

## Project Phases, Key Environmental Aspects, Wastes, Issues, Built-in Measures

15

Project Phases	Key Environmental Aspects/Activities	Nature of Emission/Effluent & Key Environmental and Social Issues	Built-in Management Measures
<b>PRE-CONSTRUCTION</b>			
Project Design	<ul style="list-style-type: none"> <li>Detailed engineering design</li> </ul>	<ul style="list-style-type: none"> <li>Susceptibility of structures to natural hazards</li> </ul>	<ul style="list-style-type: none"> <li>Design and construct structures based on the results of geologic survey, geohazard and geotechnical investigation.</li> </ul>
People	<ul style="list-style-type: none"> <li>Community and project relations which may cause hindrance to projects' implementation.</li> </ul>	<ul style="list-style-type: none"> <li>Violation of Indigenous Peoples Rights</li> </ul>	<ul style="list-style-type: none"> <li>Securing of approval/necessary permits and endorsement from the Local Government Unit and other government agencies, namely: DENR, EMB, MGB, DPWH, DTI, and Mindanao Development Authority prior to implementation of the project.</li> </ul>

16



Project Phases	Key Environmental Aspects/Activities	Nature of Emission/Effluent & Key Environmental and Social Issues	Built-in Management Measures
<b>CONSTRUCTION</b>			
Land	<ul style="list-style-type: none"> <li>Excavation of main foundation areas for consolidating and backfilling.</li> </ul>	<ul style="list-style-type: none"> <li>Change of topography</li> </ul>	<ul style="list-style-type: none"> <li>Stabilize the slope to prevent soil erosion.</li> <li>Appropriate engineering measures.</li> </ul>
	<ul style="list-style-type: none"> <li>Removal/Loss of trees and other vegetation</li> </ul>	<ul style="list-style-type: none"> <li>Site clearing</li> </ul>	<ul style="list-style-type: none"> <li>Retain if there are century-old trees to serve as nesting ground and habitat of birds.</li> <li>Secure permit from PCA and DENR for coconut and other tree species to be cut.</li> </ul>
	<ul style="list-style-type: none"> <li>Fauna ecology</li> </ul>	<ul style="list-style-type: none"> <li>Loss of wildlife species</li> </ul>	<ul style="list-style-type: none"> <li>Gradual clearing of the site to allow time for wildlife animals to transfer.</li> </ul>
	<ul style="list-style-type: none"> <li>Solid wastes generation</li> </ul>	<ul style="list-style-type: none"> <li>Construction debris, scrap metals</li> </ul>	<ul style="list-style-type: none"> <li>Implementation of Solid Waste Management.</li> <li>Provision of trash bins in the construction site and regular hauling of wastes.</li> </ul>
	<ul style="list-style-type: none"> <li>Soil contamination</li> </ul>	<ul style="list-style-type: none"> <li>Oil and grease from heavy equipment/vehicles</li> </ul>	<ul style="list-style-type: none"> <li>Training personnel in proper handling of oil/lubricants.</li> <li>Installing oil and grease separator.</li> <li>Provision of spill response kit.</li> </ul>

17

Project Phases	Key Environmental Aspects/Activities	Nature of Emission/Effluent & Key Environmental and Social Issues	Built-in Management Measures
Air	<ul style="list-style-type: none"> <li>Generation of dusts, particulate matter and gas emissions</li> </ul>	<ul style="list-style-type: none"> <li>Earth moving activities (i.e., land clearing, ground excavation and cut and fill operations)</li> <li>Use of generator set</li> <li>Stockpiling of dusty materials</li> </ul>	<ul style="list-style-type: none"> <li>Dust management by spraying water to minimize airborne dusts during and immediately after the operation.</li> <li>Any stockpile of dusty materials should either be covered or sprayed with water.</li> </ul>
	<ul style="list-style-type: none"> <li>Noise pollution</li> </ul>	<ul style="list-style-type: none"> <li>Noise generated during construction works and heavy equipment operation.</li> </ul>	<ul style="list-style-type: none"> <li>Heavy equipment must have mufflers and silencer.</li> <li>Limiting the construction time to a given standard hours.</li> <li>Provision of vegetative environmental buffers.</li> </ul>
Water	<ul style="list-style-type: none"> <li>Changes in water quality</li> </ul>	<ul style="list-style-type: none"> <li>Spills from improper handling and transport</li> <li>Possible contamination from tailing storage facility.</li> </ul>	<ul style="list-style-type: none"> <li>Provision of hazardous waste storage, chemical storage and used oil &amp; lubricants storage.</li> <li>Appropriate engineering design and regular monitoring of surface and groundwater quality.</li> </ul>
People	<ul style="list-style-type: none"> <li>In-migration</li> </ul>	<ul style="list-style-type: none"> <li>Local employment opportunities</li> </ul>	<ul style="list-style-type: none"> <li>Prioritizing the local community for those who are qualified for the job (labor, mason etc.)</li> </ul>

18

Project Phases	Key Environmental Aspects/Activities	Nature of Emission/Effluent & Key Environmental and Social Issues	Built-in Management Measures
<b>OPERATION</b>			
Land	<ul style="list-style-type: none"> <li>Soil erosion/ increased siltation</li> </ul>		<ul style="list-style-type: none"> <li>Silt management by utilizing gabions, silt fences and sediment traps with geotextile.</li> <li>Erosion and siltation control by planting various plant species along slopes of mined-out areas.</li> </ul>
Water	<ul style="list-style-type: none"> <li>Water quality</li> </ul>	<ul style="list-style-type: none"> <li>Discharge of domestic wastes</li> <li>Mercury and other heavy metal accumulation in surface and groundwater near the tailings storage facility.</li> </ul>	<ul style="list-style-type: none"> <li>Installation of septic tank.</li> <li>Regular water quality monitoring.</li> </ul>
	<ul style="list-style-type: none"> <li>Water competition</li> </ul>	<ul style="list-style-type: none"> <li>Possible shortage of water supply</li> </ul>	<ul style="list-style-type: none"> <li>Setting up of deep well within the project site.</li> <li>Secure permit from NWRB.</li> </ul>
People		<ul style="list-style-type: none"> <li>Employment and livelihood opportunities</li> </ul>	<ul style="list-style-type: none"> <li>Contractor must adopt strict policy to source workforce from qualified locals.</li> </ul>
	<ul style="list-style-type: none"> <li>Potential health and sanitation problem</li> </ul>	<ul style="list-style-type: none"> <li>Increase volume of sewage and may cause outbreak of disease</li> </ul>	<ul style="list-style-type: none"> <li>Provision of temporary bunkhouses for construction workers and other sanitary facilities.</li> <li>Hire workers from the host community so that there will be no need to set up construction barracks or even temporary sanitary facilities.</li> </ul>

19

Project Phases	Key Environmental Aspects/Activities	Nature of Emission/Effluent & Key Environmental and Social Issues	Built-in Management Measures
<b>ABANDONMENT</b>			
Land	<ul style="list-style-type: none"> <li>Accumulation of heavy metals in soils</li> </ul>		<ul style="list-style-type: none"> <li>Remediation by planting potential plant accumulators of heavy metals.</li> </ul>
	<ul style="list-style-type: none"> <li>Degradation of vegetative cover</li> </ul>		<ul style="list-style-type: none"> <li>Nursery production and reforestation.</li> </ul>

20

## Project Cost and Duration

- PMDC's estimated investment cost for the development of the economic zone is at Php 500 Million

21

## Kadugayon sa Proyekto

	2017	2018	2019	2020	2021	2022
<b>Mabetas Ore Processing Zone</b>						
Pre-construction						
Construction						
Operation						
<b>Diwalwal Special Economic Zone</b>						
Pre-construction						
Construction						
Operation						
<b>729 VICTORY MINERAL EXPLORATION</b>						
Pre-exploration						
Exploration						

22



*OPEN FORUM*

24

**Daghang  
salamat!**

23

## References

Accessed at <https://www.marketscreener.com/TRIBUNE-RESOURCES-LTD-10352928/news/Tribune-Resources-06-12-2018-Interest-Acquired-in-High-Grade-Philippines-Gold-Project-27712768/on> September 6, 2019

Commission on Audit, PMDC ES2016, Executive Summary, 2016 @ online  
[https://www.coa.gov.ph/phocadownloadpap/userupload/annual\\_audit\\_report/GOCCs/2016/Corporate-Government-Sector/Natural-Resources-Development-Corporation/PMDC\\_ES2016.pdf](https://www.coa.gov.ph/phocadownloadpap/userupload/annual_audit_report/GOCCs/2016/Corporate-Government-Sector/Natural-Resources-Development-Corporation/PMDC_ES2016.pdf)

DENR, Local Government ink pact to rehab major river in Compostela Valley, Agenparl.eu, 2019  
<https://agenparl.eu/denr-local-government-ink-pact-to-rehab-major-river-in-compostela-valley/>

Mellejor, Lilian, DENR shuts down 1,800 plants in Diwalwal, March 17, 2019, Philippines News Agency, <https://www.pna.gov.ph/articles/1064813>

Wang, L. et.al, Eliciting Drivers of Community Perceptions of Mining Projects through Effective Community Engagement, 2016 @ <https://www.mdpi.com/2071-1050/8/7/658/pdf>,  
Philippine Health Insurance Corporation, Agency's Mandate and Function, 2014, online @ [https://www.philhealth.gov.ph/about\\_us/mandate.html](https://www.philhealth.gov.ph/about_us/mandate.html)

Philippine Mining Development Corporation. (n.d.). Mineral Reservations. Retrieved from <http://pmdc.gov.ph/site/mineral-reservations/> on August 1, 2019

Philippine Mining Development Corporation. January 2019. Diwalwal Mineral Reservation Area (DMRA) Action Plan 2017-2022

Philippine Statistics Authority, Highlights on Household Population, Number of Households, and Average Household Size of the Philippines (2015 Census of Population), 2016,  
<http://www.psa.gov.ph/content/highlights-household-population-number-households-and-average-household-size-philippines>

Wilmot, Taylor , climate Himalaya, Project Affected Population and Livelihood Issues in Indian Himalayan Region, November 13, 2012, [chimalaya.org](http://chimalaya.org).