

## 4.4 Social Analysis

### 4.4.1 Project Beneficiaries

The Road Influence Area is composed of ten (10) barangays with a total population of 19,187 persons, 9,983 are males and 9,204 are females. The proposed farm-to-market road will traverse eight (8) barangays with its population considered as the primary beneficiaries. The total number of primary beneficiaries is 16,390 persons; 8,538 are males and 7,852 are females with a total number of households of 3,485. The remaining two barangays which will not be directly traversed by the proposed farm-to-market road with its population considered to be the secondary beneficiaries. The secondary beneficiaries are 2,797 persons; 1,445 are males and 1,352 are females with a number of households of 561. The annual growth rate in the road influence area is at 1.36% and has of 36.3 % of the total population classified as economically active. The proposed sub-project has long been the dream and desire of the people in the area. The road section which serves as the lifeline in transporting their farm produce and farm inputs.

**Table 22 - No. of primary and secondary project beneficiaries by barangay.**

Barangay	Primary Beneficiaries		Total	No. of HH	Secondary Beneficiaries		Total	No. of HH	Total No. of HH
	Male	Female			Male	Female			
Alimono	1,319	1,248	2,567	515					
Gemumua Agahon	1,554	1,435	2,989	636					
Imbang Grande	367	308	675	146					
Jagumitan	1,367	1,240	2,607	552					
Salngan	1,402	1,278	2,680	587					
Tagubong	891	839	1,730	396					
Dalicanan	826	772	1,598	337					
Agtabo	812	732	1,544	350					
<b>Sub-total(pop.)</b>	<b>8,538</b>	<b>7,852</b>	<b>16,390</b>				<b>16,390</b>		
<b>Sub-total (HH)</b>				<b>3,519</b>					<b>3,519</b>
Magdungao					770	732	1,502	289	
Talongonan					675	620	1,295	272	
<b>Sub-total (pop.)</b>					<b>1,445</b>	<b>1,352</b>	<b>2,797</b>		
<b>Sub-total(HH)</b>								<b>561</b>	<b>561</b>
<b>Total</b>							<b>19,187</b>		<b>4,080</b>

Source: PPDO & CPDO total enumeration survey – CY 2014

Several barangay public consultations were conducted in the ten (10) barangays within the RIA. It was attended by the majority of the people that will be affected by the project. The people expressed their desire to have a concrete road that would make the transportation of their goods easier and cheaper for them. It has been their desire for decades.



Passi City Mayor Jesry T. Palmares together with a couple of staff from the PPMIU introduced the project. Subsequently, the people were consulted if they agree that the project be constructed in their place. In response, they express their support and approval by raising their hands. All who attended raised their hands as a manifestation of their support and approval. The barangay officials passed a resolution of support relative to the project.

#### **4.4.2 Indigenous Cultural Community/Indigenous Peoples (ICC/IP)**

The site of the proposed Farm to Market Road – Sub –Project is not situated within or will pass through any Ancestral Domain. It will not affect any extant IP/ICC community. There are identified Indigenous People locally known as “Ati” in the RIA located in barangay Salngan, Passi City. There are nine (9) persons that were identified, but they are not permanent residents of the barangay. They are considered as temporary residents, they work as farm-laborers and they only visit barangay Salngan whenever the harvest season of sugarcane is on. They are permanent residents of Barangay Nagpana in the Municipality of Barotac Viejo in the northern part of the Province of Iloilo. The “Ati” were also present during the barangay consultation that was conducted last June 30, 2014 at nine o’clock in the morning. It was attended by about 150 residents of the barangay. The PRDP and the proposed FMR-SP were presented to them as the solution for their decade long problem of bad road. The “Ati” are part of those present during the consultation that manifested their approval and support to the proposed FMR-SP. *(Please see attached barangay consultation attendance, minutes and other related documents)*

#### **4.4.3 Site and Right-of-Way acquisition**

The proposed sub-project is along an existing provincial road. The existing provincial road has a road right of way of fifteen (15) meters and has been existence and is being used by the residents for decades. The original length of the proposed sub-project was 25.993 kilometers. It was extended up to 28.003 kilometers to cover two more barangays within the Road Influence Area. The additional two (2) kilometers and 10 meters road length is still within an existing provincial road and barangay road. The result of the Inventory and Entitlement of Project Affected Persons survey has shown that there is no need to acquire a new right of way. *(Please see the attached Inventory and Entitlement of Project Affected Persons)*

#### **4.4.4 Damage to standing crops, houses and/or properties**

The road formation width of the proposed sub-project is ten (10) meters, which is less than the existing provincial road right of way of fifteen (15) meters. The proposed sub-project will involve the rehabilitation of the existing provincial road. During the rehabilitation activity no damage to standing crops, houses and/or properties will occur since rehabilitation will only limit to ten (10) meters wide.

However, there are 30 PAPs with a total of 717 trees of which that will be affected by the project as shown in the result of the Inventory and Entitlement of Project Affected Persons survey. The Community Environment and Natural Resources Officer (CENRO) based in the Municipality of Barotac Nuevo which has jurisdiction over the City of Passi has issued a Cutting Tree Permit for the trees that will be affected by the project. The Philippine Coconut Authority has also issued a Cutting Ttree Permit for the coconut trees that where also identified in the Entitlement Survey. The City of Passi will be responsible to cut the trees and the lumber will be given to the owner of the trees to settle for the entitlement. At the same time all the owners of the trees have executed Waiver of Quit Claim for the trees to be cut. (Please see the attached **ANNEX B** *(Inventory and Entitlement of Project Affected Persons survey, Cutting Tree Permit and Waiver of Quit Claim attached in the Social and Environmental Safeguards)*)

**Table No. 23 – No. Project Affected Persons (PAPs)**

No. of Households	Total Landholdings Sq. m.	No. of trees lost	Total Waived Entitlement (in pesos)
30	4,416,622	717	71,395.00

#### **4.4.5 Physical displacement of persons**

The result of the Inventory and Entitlement of Project Affected Persons survey has shown that there will be no physical displacement of persons, or relocation of houses of farmers /residents during the rehabilitation of the proposed sub-project since all structures are observed to be standing outside the road formation width of ten (10) meters. No structures were observed to have encroached inside the road formation width of the existing provincial road of fifteen (15) meters.

#### **4.4.6 Economic displacement of persons**

The result of the Inventory and Entitlement of Project Affected Persons survey, have shown that there will be no economic displacement of persons along the proposed sub-project. It is noted that since the road formation width of the sub-project which is ten (10) meters is within the existing fifteen meters wide road formation width.

#### **4.4.7 Grievance Redress Mechanism**

A Grievance Redress Mechanism (GRM) will be established. It is an integral project management element that intends to seek feedback from beneficiaries and resolve of complaints on project activities and performance. The mechanism will ensure that (i) the public within the project influence are aware of their rights to access, and shall have access to, the mechanism free of administrative and legal charges; (ii) that these rights and interests are protected from poor



project performance, especially of beneficiaries and/or affected persons; and (iii) concerns arising from project performance in all phases are addressed effectively.

The Provincial Local Government Unit (PLGU) will make the public aware of the GRM through public awareness campaigns, training and capacity building in I-SUPPORT. Any person who has feedback or complaints regarding the performance or activities of the project and its subprojects during pre-implementation, implementation and operation phases, shall have access to the GRM.

Contact details in support of the mechanism will be publicly disclosed and posted in the offices of concerned communities and in strategic places in the project's area of influence. These will also be incorporated in PRDP information materials, such as Project brochures, flyers and posters.

The Governor has designated one of the officers to be a Grievance Point Person (GPP) for project-related issues. The GPPs will be responsible for the initial screening of feedbacks and complaints, as well as, the organization of preliminary meetings with concerned parties to establish the critical path to resolution. A registry of feedback or grievances received will be maintained by the GPPs for reporting to the NPCO and the World Bank, specifically for associated follow-up, resolution or non-resolution of issues. Feedback/grievance registries will be consolidated by the NPCO for discussions on how to further enhance PRDP systems based on the feedback and complaints.

Households or groups of households wishing to provide feedback and/or economic well-being, spiritual life, environmental quality, or any other assets of their lives shall make their complaint using the standard complaint form provided by the GPPs. The Grievance Investigation and Resolution process are outlined below:

Step 1: Feedback/Complaint Form will be accomplished by beneficiaries, affected persons (APs), households (AHs) or groups of households and sent to the GPP of the relevant body (PSOs, RPCOs or LGUs).

Step 2: Feedbacks and complaints will be recorded in the registry. In cases of complaints, the GPP will assess the validity of the grievance. If evaluated as valid, within 10 days from the date the complaint is received, the relevant LGU's GPP will organize meetings with the relevant agencies/contractors to discuss how to resolve the matter. All meetings will be recorded and copies of the minutes of meetings will be provided to beneficiaries or APs/AHs.

Step 3: The relevant LGU Governor/Mayor's Office shall take such mitigation measures as agreed in meetings from step 2 within 10 days, or some other period acceptable to the parties referred to in step 2.



Step 4: When the complaint is resolved, the Complaint Form shall be signed by complainant/head of household, the relevant LGU Mayor's Office and annotated at each stage of process by the relevant LGU with copies to be sent to the concerned RPCO.

Step 5: If no understanding or amicable solution is reached, or if no response is received from the relevant LGU Governor/Mayor's Office within 15 days after the registration of complaint, the APs/AHs can appeal to the relevant LGU Council (Sangguniang Bayan, Panglungsod or Panlalawigan). The relevant local council will decide and take mitigation measures within one month of receiving the appeal.

Step 6: If no understanding or amicable solution is reached, or if no decision or mitigation measure is received from the relevant LGU Council within 15 days after the registration of complaint, the APs/ AHs can appeal to the relevant RPCO GPP. The concerned RPCO will decide and take mitigation measures within one month of receiving the appeal.

Step 7: When the complaint is resolved, the Complaint Form shall be signed by the complainant / head of household, the relevant LGU, the RPCO, and annotated at each stage of the process by the GPP of the PSO.

Step 8: If no understanding or amicable solution is reached, or if no response is received from the relevant RPCO within 15 days after the registration of complaint, the APs/ AHs can appeal to the PSO GPP. The PSO will provide a decision and take mitigation measures within one month of receiving the appeal.

Step 9: When the complaint is resolved, the Complaint Form shall be signed by the complainant / head of household, the relevant LGU, the PSO and annotated at each stage of the process by the GPP of the NPCO.

Step 10: If no understanding or amicable solution is reached, or if no response is received from the relevant PSO within 15 days after the registration of complaint, the APs/ AHs can appeal to the NPCO GPP. The NPCO will provide a decision and take mitigation measures within one month of receiving the appeal.

Step 11: When the complaint is resolved, the Complaint Form shall be signed by the complainant / head of household, the relevant LGU, and the NPCO with copies to be sent to WB.

Step 12: If the AP/AH is still not satisfied with the decision of the PSO in the absence of any response within the stipulated time, the AP/AH as a last resort may submit his/her case to the court, in which decision is final.



## 4.5 Environmental Analysis

### 4.5.1 Natural Habitat

The sub-project is a farm -to-market road located at Passi City. It traverses the barangays of Imbang Grande, Jaguimitan, Alimono, Salngan, Magdungao, Tagubong, Gemumua Agahon, Dalicanan and Agtabo.

The present vegetative cover of Passi City comprises of natural fragmented forest and brush land. The forest is generally located at the rolling to moderately steep areas. The open areas are cultivated with a wide range of agricultural crops. Alienable and disposable lands generally use for agriculture. Low lying areas are planted with rice, cash crops and coconut, bamboo and orchard. Corn and sugar are usually planted in the undulating to rolling areas. Areas with lower slope are devoted to agriculture and built up areas. Below is the breakdown of land cover:

**Table 24 -Passi City land cover**

Vegetation (Has.)	PASSI CITY
Residual Forest	904.21
Grassland	264.81
Cultivated area	1,310.05
Perennial cropland	317.68
Total	2,796.75

*Source: PENRO Province of Iloilo*

Bird species in the area are those species commonly found in brush lands and grasslands such as Maya, Sunbirds and Robins. The dwindling bird life community is a direct consequence of the absence of appreciable forest covers in the area and the threat of human population over the years.

There are no endemic flora and fauna species with high vulnerability risk existing in the area.

### 4.5.2 Physical Cultural Resources

The project area is typical of a provincial setting where calmness of nature can be felt. There are no considerable structures, monuments or Physical Cultural Resources that are present that could be affected by the project.



#### **4.5.3 Chance Archaeological/Paleontological Finds**

Upon discovery of any archaeological/paleontological artifacts, bones or other objects of interest, the procedure stipulated in the PRDP – Chance Archaeological/Paleontological Finds Procedure for Subprojects shall immediately be followed. The findings shall immediately be reported consistent with RA 8492 to the National Museum.

#### **4.5.4 Terrain, Soil Types and Rain Fall**

The headwaters of the Lamunan River are in the mountainous parts of Brgy. Magdungao, Brgy. Tagubong, Brgy. Gemumua Agahon and Brgy. Dalicanan with Pinangliwan creek, Agbariri creek, Batuyanan Creek, Binaliwan Creek, Putdan Creek, Magsiping Creek and Mabang Sapa Creek as its major tributaries. The water from the creeks drains to the Lamunan River passing three (3) overflows and 3 bridges from Brgy. Gemumua Agahon to Brgy. Salngan.

The South Balabago Resources, Inc. (SBRI), a private water system company is managing water drawn from the aquifer of Barangays Bacuranan and Sablogon. Presently they are serving 9 barangays with 1,962 household consumers.

Passi City's landscape is dominated by rolling to moderately steep hills and narrow valley plains, with a slope mostly from 0-18 percent and more than 200 meters above sea level respectively. There are areas that are moderately sloping to relatively flat stretch along the riparian zone going down to urban areas.

The physical feature of the project area (from Barangay Imbang Grande to Gemumua Agahon) can be described as undulating- rolling to moderately steep with the highest elevation at 170 meters above sea level and 7.6 percent slope reckoned from the highest point of the existing provincial road located at Barangay Tagubong. The area is vegetated with grass, varieties of trees, and agricultural crops like rice, vegetables and perennial crops. The rolling areas are planted with sugar and the moderately sloping is planted with corn.

Generally, the soil type distribution in these areas regardless of land area Imbang Grande, Jaguimitan, Magdungao, Alimono, Salngan and Talonganan; Faraon clay in portion of Brgys. Jaguimitan, Tagubong, Magdungao, Alimono and Talonganan; Alimodian Btac. Complex found in Barangays Agtabo, Delicanan and portion of Brgys. Tagubong while the Luciana loam is found in the upper part of Gemumua Agahon.

The loamy soil contains retains lots of water, but also drains enough water. Clay soil is referred to as "heavy soil" because it has very small particles with tiny pore spaces in which the soil absorbs and retains more



water. This makes the soil poorly aerated and poorly drained. Clay has poor drainage in the soil. It tends to compact and become cloddy when it is tilled, walked on, or worked when it is wet. Clay loam is a soil mixture that contains more clay than other types of rock or minerals. The soil tends to be heavy, because they are so dense. When the soil is very wet, it swells to retain water that makes it difficult to work with.

Passi City belongs to the third type climate region, characterized by no distinct dry and wet season. Though it does not belong to the typhoon belt areas, it is affected by typhoons that occasionally visit the province.

#### **4.5.5 Hazard/risk assessment**

##### **4.5.5.1 Drainage Situations and Flooding Potential**

Generally, flood prone areas are confined in riparian zones when creeks and river overflows. Since the terrains of the sites are mostly steep to sloping the water usually runs to the rice fields and on lowlands. A canal is recommended for drainage in areas where there is surface runoff coming from a steep slope.

#### **4.5.6 Status of Environmental Clearances –CNC/ECC**

An Environmental Compliance Certificate ECC, numbered ECC-R6-1501-0041-5020 was issued by the Environmental Management Bureau on February 2, 2015. This ECC was issued for the proposed Rehabilitation of Imbang Grande – Tagubong – Gemumua Agahon – Agtabo Farm to Market Road and was approved and signed by Atty. Jonathan P Bulos, Regional Director, DENR – Regional Office 6.

The Community Environment and Natural Resources Office (CENRO) based in the municipality of Barotac Nuevo, Province of Iloilo has issued a cutting tree permit dated August 18, 2014, signed by Mr. Arvi Fernando – OIC CENRO Officer.

The Philippine Coconut Authority Regional Office VI, has issued a “Permit to Cut Coconut Trees” dated March 30, 2015 signed by Mr. Joel P. Solis – PCDM/RM/Administrator for the Rehabilitation of Imbang Grande – Tagubong – Gemumua Agahon – Agtabo FMR subproject.

#### **4.5.7 Pest Management**

Several crops can be found within the RIA, these are rice with a total area of 1,230.55 has. with 3,341 farmers cultivating these farms, corn with a total area of



352.7 has. cultivated by 415 farmers, other crops are vegetables, bananas, root crops, coconut and assorted fruit trees, however, these crops are grown in small scale and in backyard areas.

An Integrated Pest Management (IPM) program (KASAKALIKASAN) is being implemented in the RIA by the City Agriculture's Office (CAO) of the City of Passi in partnership with the Department of Agriculture (DA) Regional Office VI. These two offices had conducted several trainings focused on capacitating farmers with the knowledge and skills required to properly and effectively apply IPM in crop production.

About sixty five (65) percent of the total number of farmers were able to attend season long training on Integrated Pest Management (IPM) on Rice, Corn and Vegetables. Out of these numbers of farmers who were able to undergo training, almost seventy five (75) percent adopted the IPM that was introduced to them. They were able to understand the hazards of chemical pesticides to humans, natural enemies and our local environment.

#### **4.5.8 Social and Environmental Impacts (see attached ESMP)**

Issues and potential impact to the people and the environment were identified. Proper assessment was conducted and the issues and potential impacts were classified if it will have moderate or major impact to the environment, to the people or to the project itself.

To address these identified possible issues and potential impacts, proper and adequate mitigation measures were indicated in a separate Environmental and Social Management Plan (ESMP). It is also included in the ESMP the schedule/duration of the mitigation measures as well as the responsible unit that will implement the mitigation measures. Most of the identified potential impacts are temporary and moderate in nature since most of them will only occur during construction.

During pre-construction phase, delivery of construction materials and transport of mechanical equipment to site is identified to be one of the issues, mitigation measures were installed in the ESMP. Grievance and redress mechanisms were also installed to address possible grievance that will occur during pre-construction, construction and post construction phases. Possible loss of economic trees during construction was also anticipated and proper and adequate mitigation measures is also included in the ESMP, like the execution of notarized waiver of quiet claim of the owners of the affected trees, issuance of a cutting tree permit by the CENRO and PCA is also included.

During construction phase, domestic wastes that is generated by construction workers and temporary increase in sedimentation issues were also identified. Proper and adequate toilet facilities shall be provided to mitigate the impact of domestic waste generated by construction workers. Proper disposal areas were already identified to absorb all domestic waste that will be generated by the

project. Potential contamination of surface and ground water with oil and grease, potential contamination with human waste, potential disruption of traffic flow, potential dust/mud nuisance during construction were also considered to have moderate impacts in the environment, adequate and proper mitigation measures were also specified in the ESMP.

Potential landslide/erosion of exposed road sides resulting to sedimentation and inadequate drainage resulting in flooding or ponding of waterways were also identified, slope protections and adequate sizes and number of drain were included in the detailed engineering design and specific stations where these slope protections and drains that will be constructed were also stated in the ESMP.

Other issues that are identified during construction includes, local employment, potential damage to road due to hauling of quarry materials, possible discovery of artifacts, bones, and other objects of interest, adequate and proper mitigation measures were also stated in the ESMP.

The proposed quarry sites are existing river quarry sites and the riparian areas are cultivated with agricultural crops. The existing vegetation and natural grown trees will not be affected/ disturbed by the quarrying activities. Tree planting along the river embankment is done to prevent soil erosion.

The contractor usually put-up mobile batching plant in a vacant open field that is not being utilized for other purposes. Truck mix batch plants load out the ingredients of the concrete mixture into a mixer truck, and the truck mixes them to form the concrete. In the case of concrete batching plants, cement, sand and aggregates can produce dust which may enter neighbouring premises and adversely affect amenity value. The best way to avoid offsite problems is to prevent the release of the dust through good design and management techniques. The provision of wind barriers such as tarpaulins or plywood cover that may help control the emission of dust from the plant.

Contaminated stormwater and process wastewater should be captured and recycled. Concrete agitator bowls and chutes must never be washed out to the stormwater system or roadways. A wastewater collection and recycling system should be designed to collect contaminated water from; agitator washout, truck washing, yard washdown, contaminated stormwater, concrete batching area, slump stand, any other wastewater from the batching plant operation.

Process wastewater and contaminated stormwater collected from the entire site should be diverted to a settling pond, or series of ponds, such that the water can be reused in the concrete batching process. The settling pond or series of ponds should be lined with an impervious liner capable of containing all contaminants found within the water they are designed to collect.

No environmental impact of wastewater from piggeries and slaughter house is expected since there is no commercial or large scale piggeries within the Road Influence Area (RIA). The number of swine in the area are mostly backyard



raised. The Provincial Agriculture's Office has a program that promote the recycling of swine manure that can be converted for biogas fuel to minimize the environmental impact of hog manure. The slaughter house is located in the city and it is six kilometers away from the RIA.

There is no possible long term impact of waste water to the environment from the project that is identified. Runoff control measures can be installed at the time of road, highway and bridge construction to reduce runoff pollution both during and after construction. Such measures can effectively limit the entry of pollutants into surface waters and ground waters and protect their quality, fish habitats and public health. Temporary and moderate impact could possibly be considered. Such measures can be required from the constructor.

Issues in the post-construction phase of the project were also identified, like, potential increase in the use of pesticides due to intensification of cash crops production in the area. The City Agriculture's Office of the city of Passi and the Department of Agriculture are implementing the "KASAKALIKASAN" program of the government, a program that promotes integrated pest management technology to the farmers in the area.

Potential acceleration of denudation of upland/hilly areas due to intensification of crop production and potential increased in encroachments of human activities into the nearby forest were also identified as issues or potential environmental impact and proper and adequate mitigation measures were included in the ESMP.

#### 4.6 Financial Analysis

##### 4.6.1 Total Project Cost by Funding Source and Cost Sharing (WB LP, LGU, Beneficiaries)

**Table 25 - Total project cost, funding sources and cost sharing**

Total Project Cost	Funding Sources and Cost Sharing		
	Government of the Philippines		Local Government Unit
	WB Loan Proceeds (80%)	National Government (10%)	Province of Iloilo and City of Passi (10%)
Php 264,013,218.94	Php 211,210,575.15	Php 26,401,321.89	Php 26,401,321.89

The total project cost for a 28.003km. Portland Cement Concrete Pavement (PCCP) with a thickness of 0.2 meters, 5.0 meters carriageway, 1.5 meters shoulders on both sides