

SEA AND ENVIRONMENTAL ASSESSMENT

Name of Road : **Namabbalan Norte-Baliuag-Bical Cabbo Farm to Market Road With Bridges**
 Location : **Tuguegarao City and Penablanca, Province of Cagayan**
 Implementing LGU : **Provincial Government of Cagayan**
 Estimated Number of Beneficiaries : **_____ households**
 New or Rehab : **Construction and Rehabilitation**
 Estimated Total Cost : **Php _____**

D. Social Analysis

i. Project Beneficiaries

a. Number of Beneficiaries

The subproject will directly benefit 894 households residing in Barangays Namabbalan Norte, Baliuag, and Bical. As to population, the total number of beneficiaries is 4,460, of which 2,230 are males and 1,892 females.

Of the total number of household beneficiaries about 75%, are engaged in agricultural activities.

The existing FMR connects Barangay Larion, Tuguegarao City (along the National Highway) to three barangays in Penablanca namely: Cabbo, Bical and Baliuag. As proposed, the stretch of FMR subproject starts from Bical passes through a part of Cabbo, then proceeds to Baliuag (as indicated in the DED of Section 2).

Table 13: Number of Direct Beneficiaries (Road Users) of the Subproject

RIA (Barangay)	Category and No. of Beneficiaries			
	No. of Households	Population		
		Male	Female	Total
<i>Tuguegarao City:</i>				
Namabbalan Norte	32	79	88	167
<i>Penablanca:</i>				
Baliuag	380	974	1,014	1,988
Bical	366	866	790	1,656
Cabbo	116	311	338	649
Total:	894	2,230	1,892	4,460

Source: Tuguegarao City Agriculturist Office and Penablanca Municipal Planning and Development Office

b. Public Consultations

Consultations were conducted and were attended by the residents and Barangay officials from the four (4) selected barangays on April 10, 2014 and

April 11, 2014 at Namabbalan Norte, Baliuag, Bical and Cabbo, Penablanca. In all, there were 107 attendees, of which 81 or 75% are women.

On April 10, 2014, a public consultation was conducted in Namabbalan Norte. It was attended by 29 residents who are farmers and barangay officials. The attendees were mostly Ibanags - considered Indigenous People in the community.

The residents, upon learning about the project with the expectation that the project will help increase their agricultural production and consequently their economic status in life, signified their strong support for and endorsed the subproject.

On April 11, 2014, consultations were simultaneously conducted in barangays Baliuag, Bical, and Cabbo. During the consultations, the purpose of the subproject was explained, and the attendees expressed their acceptance and eagerness to participate in the project.

Also, the owners of the trees to be affected had agreed and given their approval to cut the trees anytime on condition that the timber will be turned over to them for their personal use. Moreover, the barangay officials also committed that they will be responsible for disseminating the information regarding the said project to households in their respective jurisdiction.

No issues have been raised. Beneficiaries were eager to accept the aforementioned projects for the community. The public consultation resulted in the issuance of No Objection Certificates for the Farm-to-Market road upgrading by members of the community through their Barangay Captains.

c. Grievance Redress Mechanism

A **Grievance Redress Mechanism (GRM)** was created through an Executive Order No. 01 dated March 6, 2015 issued by the Provincial Governor, providing for the organization, composition, function and duties and responsibilities of the members of the GRM (Annex P). The GRM will be headed by the Provincial Social Welfare and Development Office (PSWDO) and co-chaired by the Provincial Environment and Natural Resources Office (PENRO). This mechanism provides for the feedback or complaint procedure covering the pre-implementation up to the completion stages of the sub-project.

Public awareness campaigns shall be undertaken and spearheaded by the PPMIU I-Support.

ii. Indigenous Cultural Community/Indigenous Peoples (ICC/IP)

The proposed subproject is not situated inside any Ancestral Domain (AD) and no member of ICC/IP will be affected along the stretch of the 17.3504 kilometer road. The National Commission on Indigenous People (NCIP) has

issued a Certificate of Non-Overlap herein attached as Annex E in the SES section of this document.

iii. Site and Right-of-Way acquisition

The subproject involves the rehabilitation of a FMR including its bridges (Section 1 and 2), and a road opening linking the Barangays of Namabalan Norte, Baliuag and the Dairy Farm (Section 3). Generally, the sub-project affects some private lands but it does not displace any family along the stretch of the road as certified by the respective chairman of Barangays traverse by the FMR. Certification of Road Right of Way is annexed in this F.S. In the acquisition and settlement of the Right of Way, affected individual private land owners executed an Affidavit of Undertaking (annexed in this F.S.) as a guarantee for the conveyance of their respective properties for the use of the Provincial Government under the subproject implementation.

The road opening involving Section 3 is proposed to be constructed within a public land. For this concern, a Special Land Use permit and Certificate of Non Coverage (annexed in this F.S.) were secured from the DENR, Regional Office 02.

iv. Damage to standing crops, houses and/or properties

Some crops, forest/fruit trees along the FMR will be affected by the widening of the road. An inventory of affected trees were undertaken as a requirement in securing a cutting permit from the DENR (the inventory is annexed in this F.S.). During the consultation meeting, the owners of the affected trees gave their approval to cut the trees anytime on condition that there will be turned over to them for their personal use. Also, the local government will have to replace the trees to be cut based on the conditions for exemption for tree cutting in accordance with Executive Order No. 23, dated October 20, 2011- Planting of 100 indigenous seedlings to replace each tree cut.

Few permanent structures like electric posts will be affected upon implementation of the project and these will be relocated by CAGELCO I in accordance with R.A. No. 10531. There are also semi-permanent structures like water system lines, barangay street lights, garage and fences to be affected. Their restoration, however, will be undertaken by the households themselves and the community.

Moreover, the households are conspicuously lined along the road but outside of the Right of Way of the FMR; therefore, there are no physical displacement of persons upon implementation of the project. *(a certification from the barangay that there is no physical displacement of persons from the implementation of the FMR is annexed in this F.S.)*

v. Economic displacement of persons

The subproject will not create economic displacement, rather generate employment during its implementation. Certainly, no residents will be displaced or lose their jobs. Moreover, no livelihood activities will be negatively affected.

E. Environmental Analysis

1. Natural habitat

The subproject FMR traverses built-up areas as well as large tracts of agricultural and pasture lands of Barangay Namabbalan Norte of Tuguegarao City, Bical, Baliuag Penablanca, Cagayan. The existing FMR and the proposed road opening does not pass thru any declared or proposed protected area.

2. Physical Cultural Resources

The subproject does not affect any cultural and historical structures, natural features, landscapes, archeological sites, structures or monuments, and or physical and cultural resources.

However, in case there will be artifacts that will be discovered/recovered during the construction, the Archeological/Paleontological Chance Finds Procedure shall be applied and to be reported to the LGU Officials, Project Engineer and all others involved in the project implementation. Strict compliance to the rules shall be effected. A copy of the procedure shall be made available at the construction site for the information of all concerned individuals.

3. Terrain, Soil Types and Rainfall

Generally, the terrain of the Road Influence Area (RIA) is flat to gently rolling and undulating with patches of rolling hills. The FMR connecting barangay Baliuag and Bical traverses lands with slope ranging from 8-18 % slope. While Namaballan to Baliuag traverses rolling lands with slope ranging from 30-50% slope.

Based on the soil survey and classification conducted by the BSWM, the soil largely found in the RIA-barangays is Ilagan Sandy Clay Loam, a soil type that is suitable for pasture, planting of permanent crops and reforestation trees. They also have Clay Loam, Sandy Loam and Silt Loam that are highly suitable for rice, corn and diversified crop production.

The average monthly rainfall is recorded at 151.3 mm. Highest recorded rainfall was in the month of October with 420.9 mm. (source: DOST/PAGASA).

4. Hazard/risk assessment (Drainage Situations, Erosion, and Flooding Potential)

Potential Geo-hazard Map from the Mines and Geo-sciences Bureau shows that Barangay Namabbalan Norte lies outside the flood prone areas in the City of Tuguegarao. Likewise, Barangays Bical, Baliuag, in Penablanca lie outside flood prone areas as per Geo-hazard map provided. The barangays are well drained thru the Cagayan and Pinacanauan Rivers.

It is expected that during the construction, there will be temporary increase in soil erosion and siltation of water ways during the rainy days. Proper planning on earth fill surface and other erosion control measures will be done.

Traffic Signages will be placed specially in the school zone and other accident prone areas as precautionary measures for school children, residents and commuters.

5. Environmental Clearances – CNC

A Special Land Use Permit (SLUP) and Certificate of Non Coverage (CNC) have been secured from DENR Forestry Sector and EMB for the subproject, respectively.

With respect to Tree Cutting Permit, the application for the permit is still under process. Comments and suggestions have been effected and already submitted to the DENR Regional Office 02. The application is annexed in this F.S.).

With a given timeline, the proposed FMR has a project duration of ___ calendar days. The timeline implies the use of heavy equipment to facilitate construction within the specified period of time.

Batching Plant is identified in the Program of Work as one of the equipment needed in the construction of the FMR. DENR Administrative Order No 2003-30, the Implementing Rules and Regulations of Presidential Decree 1586 (Philippine Environmental Impact Statement (EIS) System, provided in Article II, Section 4(4.3), the Batching Plant falls under Category D (Projects unlikely to cause adverse environmental impacts). However, projects under Category D may secure a Certificate of Non-Coverage (CNC). With less than a year of the construction period, the said batching plant is mobile in nature.

The Program of Work of Namabalan FMR indicates _____ **working days** construction period within which the winning contractor is obliged to submit to the DENR-EMB through the PPMIU the required Project Description as determinant for screening in order to obtain the CNC, thus shall be formally indorsed to the proper government agency.

6. Social and Environmental Impacts

During the construction period, it is expected that the proposed project will create disturbance and inconvenience to the residents of the influence area as well as commuters. It is inevitable that some slight damage to the environment along the stretch of the proposed road will occur but these shall be mitigated. The following are environmental impacts and their mitigation measures as contained in the Environmental and Social management Plan (ESMP) which is annexed in this F.S.

a) Temporary increase in sedimentation

The topography of the road alignment does not necessarily require massive earthmoving and cutting of clayey or loose top soil. However, the potential increase of soil erosion and siltation in waterways is expected during rainy days. Proper disposal and compaction of soils shall be simultaneously implemented during the construction period.

b) Potential contamination of surface and groundwater with oil/grease

A motor pool shall be located away from waterways to avoid contamination of surface and groundwater with oil/grease. Spillage of oil/grease shall be minimized and proper handling and disposal of the waste will be strictly observed.

c) Potential contamination with human waste

Temporary camps shall be constructed to house workers. Although some local workers reside within the RIA, they should also be provided with toilets.

d) Potential disruption of traffic flow

There will be no significant effect on daily movement of commuters and farmers during the execution of the subproject. However, to ensure commuters' and residents' safety, road directional signs shall be installed especially along residential areas and school zones. Conspicuous and reflectorized road signs shall be placed on dangerous stretches of the road in compliance with LTO rules and regulations.

e) Potential dust/mud nuisance during construction

Dust is expected when construction is done during dry months. Hence, intermittent watering of ground surface will be undertaken to minimize formation of dust. On the other hand, mud will be properly piled up and disposed.

f) Erosion of exposed road sides

Erosion of exposed road sides is expected during rainy days. Proper disposal and compaction of soils shall be simultaneously implemented during those days.

g) Potential increase in the use of pesticides due to intensification of cash crop production in the area

Farmers within the RIA are already adopting and practicing the IPM-Kalikasan Approach of farming. Season-long Farmers Field School are being conducted showcasing, among others, judicious and responsible use of pesticides. This intervention is undertaken every cropping season thru a collaborative effort of LGU's (Provincial and Municipal) and the Agricultural Training Institute.

h) Potential acceleration of denudation of the upland/hilly areas due to intensification of crop production.

Denudation of hilly areas due to cultivation will be avoided by planting of fruit trees like cacao, coffee, and mangoes species. Contour farming should be practiced. Social Forestry Program and National Greening Program of the Department of Environment and Natural Resources will be promoted in those areas with rolling terrain or hills.

i) Local unemployment

The subproject will not create displacement of households in so far as livelihood is concerned rather, it shall generate employment. Project implementers should, however, ensure compliance with labor laws particularly, that which mandates the hiring of local residents and payment of reasonable wages based on rates established by local wage boards.

j) Potential damage to rivers due to Quarrying

Quarrying shall be done only in the specified area granted by appropriate authorities. Close monitoring shall be conducted by the PNREO to ensure strict compliance to existing mining laws. The quarry site is located in Barangay Dodan, Penablanca, Cagayan which is proximate to but outside the RIA.

k) Potential damage to existing road due to hauling of quarry materials

The source of quarry materials is 10 kilometers away from the project site. Loads of trucks plying the road should be regulated. Close monitoring and periodic posting of checkpoints shall be implemented. The Road to be used by the haulers from quarry to project site shall be properly maintained by the contractor. Also, hauling trucks shall be required to place nets on top of their vehicles to ensure that the materials shall not be littered along the roads enroute to the site. Constant monitoring shall be done by the PNRE Office to ensure that quarry materials be properly assessed and transported.

l) Potential Damage Due to Construction Waste Materials

Materials to be generated from the removal of the dilapidated pavement shall be transported and stockpiled, as agreed upon during consultations, in vacant areas near the proponent barangays. Vacant areas within the area of the proponent barangays will serve as disposal sites for the waste materials during the construction. The stock piles will be used for the FMR maintenance works of the said barangays.

m) Impacts of Batching Plant Operation

Temporary batching plant of the contractor shall be put up in a secluded area, that is, away from residences, and from bodies of water to avoid percolation of chemicals and pollution hazard (noise and air). The workers must use proper personal protective equipment. As much as possible the contractor must to utilize modern technology to lessen the hazard of pollution. Collection of used cement bags shall be done to maintain clean environment in the vicinity.