

- A. Sub-Project Title** : **Concreting of Angas – Lidong Farm to Market Road**
- B. Sub-Project Location** : **Municipality of Basud Camarines Norte**
- C. Sub-Project Category** : **Rehabilitation/Improvement of Existing Farm to Market Road**
- D. Sub-Project Scale/Dimension** : Concreting of 5.0533Kms. Road with a carriageway of 5 meters with 1.5 meters shoulder on both sides with complete drainage, slope protection and road signs.
- E. Sub-Project Proponent** : Provincial Local Government Unit of Camarines Norte (PLGU-Cam. Norte)
- F. Implementing Unit** : Provincial Local Government Unit of Camarines Norte (PLGU-Cam. Norte)
- G. Total No. of Barangays that will Be Benefited** : Six (6) Barangays of Basud, Camarines Norte:
a) Mangcamagong b) Angas c) Mandazo d) Taisan e) Lidong and f) Oliva
- H. Mode of Implementation** : By contract
- I. Road Influence area (RIA)** : **1,312.1** hectares, broken down as follows, showing type of crops

Crops	Area
Coconut	1,001
Rice	168
Vegetables	61
Banana	40
Pineapple	42
TOTAL	1,312

- J. Sub-Project Beneficiaries within the RIA** : 4,399 population; M= 2,243; F= 2,156

880 households

K. Total Sub-Project Cost : **Php. 51,222,828.29**

and

Cost Sharing

WB Loan Proceeds	80 %	Php. 40,978,262.63
WB –GOP	10 %	Php. 5,122,282.83
LGU Equity	10 %	Php 5,122,282.83

L. Economic Viability Indicators : EIRR: **30.1% at 15% discount rate**
ENPV: **Php. 38,175,080.00**
BCR: **1.99**

M. Conclusion and Recommendations

The sub-project will benefit **4,399** people, with influence area of **1,312** hectares. It is technically feasible since the design of the road project was based on engineering standards and on the need of the residents and the type of vehicles routing the area. It has no negative effect on the environment with existing road segment for improvement. The result of the economic analysis exceeds the NEDA hurdle rate for EIRR, BCR is more than 1 and ENPV is more than 0.

The proponent is highly capable in the management and implementation of the project and has the financial capacity to raise the equity requirement. It is also socially desirable having a high participation from the barangays within the influence area during the course of sub- project preparation. The owners of lot ("affected") by the right-of-way have expressed their willingness to donate their affected areas.

The project is highly recommended for immediate implementation.

D. Social Analysis

i. Project Beneficiaries

Barangays Angas, Mandazo and Lidong in the municipality of Basud have an estimated population of 2,293 individuals, with approximately 1,185 males and 1,102 females (as shown in Table 18, below). Majority of local products derived from different barangays, both directly and indirectly influenced by the project, include coconut, rice, banana, among other high value agricultural crops.

A total of 3 PAP's are identified in the proposed project site, specifically in barangay Angas. There are no PAP's in the road connecting two other barangays of Mandazo and Lidong because the actual road lot is excluded from private properties and have own tax declaration under the Republic of the Philippines, as reflected in the records (cadastral survey) of the Provincial Assessors Office. To further verify said concern, a certification from the Bureau of Lands of the Department of Environment and Natural Resources is secured.

TABLE 18. Total Population in Road Influence Barangays (RIB's) and Number of Affected Households per Barangay.

MUNICIPALITY / BARANGAY	MALE	FEMALE	TOTAL	AFFECTED PERSONS (HH)
Basud				
Angas	614	561	1,175	3
Mandazo	365	346	711	0
Lidong	206	195	407	0
GRAND TOTAL	1,185	1,102	2,293	

Source: Municipal Land Use Plan of Baio Economic Profile of Basud based from actual survey

Results of the face-to-face survey and ocular inspection conducted by the Social and Environmental Safeguards (SES) Team of the Provincial Government, revealed that there are no immediate threats to both human and the environment, except areas prone to flooding in several portion of the project site. Minor landslips and possible erosions in some portion of the proposed road project are also evident.

(Please refer to the Environment and Social Management Plan and Program of Works for reference)

Aside from the actual interviews, the Project Planning, Monitoring and Implementation Unit (PPMIU) also conducted public consultations in road influence barangays. SES Team members were deployed to explain to the local people the objectives as well the benefits of the project. Before the public consultations, the team coordinated with the respective Punong Barangays through a letter, to facilitate invitation to project affected persons in their jurisdiction. To assure equal participation of women, the consultation team requested the barangay officials to invite female in the public consultation. Surprisingly, attendance of women in concerned barangays was overwhelming, and they actively participated in the discussions. Several issues were raised, to include: 1.) possible employment of the local people in RIB's, and 2.) possible flooding in low elevation roads. After explaining the project and introducing its possible benefits, all attendees wholeheartedly accepted the project. (Please refer to the attached minutes of meeting, photo-documentations and attendance). In fact, all occupants who own the lots and infrastructures that will be slightly affected by the road construction have signified their support by signing the certificate of relinquishment of rights.

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

Based from the existing land-use in the Provincial Development and Physical Framework Plan of the Provincial Government, there are no ancestral domain claims in the vicinity of the proposed road rehabilitation site (PDPFP for Camarines Norte, 2010). Local people confirmed that there are no IP's residing in RIB's. However, there are sightings of IP's specifically in barangay Lidong, who serve as workers to local community people. For this reason, Certificate of Non-Overlap is secured from the National Commission for Indigenous People (NCIP) to assure the status of IP's on RIB's.

ii. Site and Right-of-Way acquisition

There are only 3 affected households within the road right-of-way (ROW), which correspond to 3,050 square meters of areas to be acquired out of the total landholding of 98,599 square meters or 3.09%. The details are shown in Table 19.

Table 19. List of Project Affected Persons in the road influence barangays

Name	Barangay	Total Landholding (m ²)	Area Affected / to be Acquired (m ²)	Remarks
Basud				
1. Reymundo Abanto	Angas	43,160	580	Waived
2. Eduardo Samonte	Angas	11,880	690	Waived
3. Benito Mercado, Sr.	Angas	43,559	1,780	Waived
	Sub-Total:	98,599	3,050	

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

To determine possible damage, the SES composite team assessed the present condition of standing crops, houses, structures, and other properties to be affected by the project. Based from the result of ocular inspection and technical evaluation, minimal losses in terms of damage to crops and public properties, are expected in the project construction phase. Nevertheless, there are several electrical posts that might be removed during construction phase. That is why, the Governor/PPMIU immediately requested the Camarines Norte Electric Cooperative to relocate the affected electrical posts to avoid possible damage. The existing road considerably met the requirements of the PRDP for the provincial roads.

The crops that will be affected include fruit trees and forest trees planted near the 2.5 meters provision for shoulder. Although there are trees near the ROW, the SES Team recommended not to cut any tree, which are the common natural soil retainer in both sides of the proposed project. (Please refer to the attached inventory form).

With regards to structures owned by the affected persons and group, wooden/bamboo fences along residential areas were observed. Good thing is, people expressed willingness to voluntarily remove the temporary fences (wooden/bamboo) when the project starts.

iv. Physical displacement of persons

Based from the assessment, there will be no persons to be displaced relative to the implementation of the proposed subproject. Hence, no relocation/resettlement plan is necessary.

v. Economic displacement of persons

During the SES composite team survey, local people affirmed that positive impact will soon be realized in terms of several socio-economic

factors such as decrease in travel time for marketing of products, possible cut in transport fare, possible decline in the cost of farm inputs, among others. It will probably increase chances of economic gains for the community people, both directly and indirectly affected by the project.

vi. Grievance Redress Mechanism

A focal person for Grievance and Redress Mechanism has been assigned through an amendment of the existing Executive Order organizing the PPMIU. The PPMIU will designate a place and suggestion box for GRM concerns to assure that all grievances that will arise in all projects under PRDP will be taken into consideration and assure prompt action through the GRM focal person.

D. Environmental Analysis

i. Natural habitat

The proposed road construction is relatively far from the natural habitat of important species of wildlife. Although there were some important species of planted trees present in the vicinity of the proposed project, the effect of project construction is very minimal, considering that the road was already opened for several decades.

ii. Physical Cultural Resources

There will be no structures and places of cultural value that will be affected by the proposed project. In case old artifacts, fossils, among other things that have cultural or historical significance are unearthed during project construction, said incidence shall immediately be reported to the RPCO and/or the National Museum or any nearest concerned agency/agencies for further investigation and verification.

iii. Terrain, Soil Types and Rainfall

The terrain on the proposed project site is relatively flat with approximately 0-3% slope.

When it comes to soil type, the influenced area is generally of clay loam type, and therefore, existing earth roads pose risks to commuters due to its slippery property, especially during rainy season, where in fact, the existing pavement is primarily graveled road.

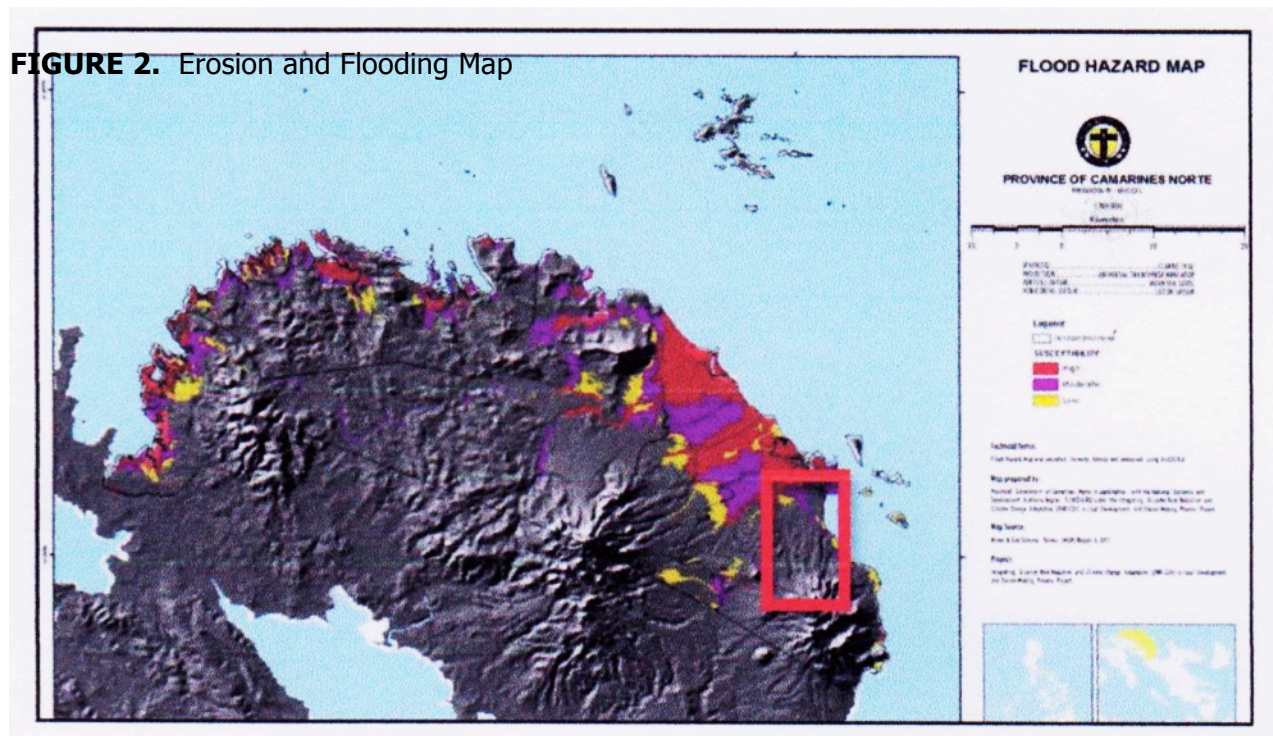
As to rainfall, the area falls under the Type II climate. In this condition, there is no distinct dry season with a very pronounced maximum rain period from December to February. Minimum monthly

rainfall occurs during the period from March to May(<http://www.cropsreview.com/climate-types.html> - accessed on February 12, 2015).

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

The proposed project site has low susceptibility to flooding as reflected in the flooding map of the Mines and Geo-sciences Bureau 5, below.

With regards to erosion, RIB's have only slight erosion, which could be mitigated by riprapping, installation of geonets and dense planting of potential natural vegetation. Please refer to Item 6 of Table 12.



Source:MGB Region 5, 2011

v. Status of environmental clearances – CNC/ECC

After conducting SES survey, provincial SES staff prepared Initial Environmental Examination (IEE). This IEE was used for securing Environmental Compliance Certificate (ECC) or the Certificate of Non-Coverage (CNC) from the Environmental Management Bureau of the Department of Environment and Natural Resources (DENR-EMB-5). At present, the DENR-EMB-5 required the PPMIU to secure ECC.

Permit to cut trees has not been secured since the premium quality trees, i.e. narra are standing at the edges of the provision for shoulders. For this case, the firm stand of the SES Team is to retain the trees considering that these trees are important to prevent soil erosion.

A mobile batching plant will be used for this particular project to lessen environmental impacts. Nevertheless, the contractor will be required to comply with other regulatory requirements set by the Department of Environment and Natural Resources in so far as the operation of batching plant is concerned.

vi. Integrated Pest Management and DA-KASAKALIKASAN

Integrated Pest Management (IPM) shall be incorporated in the corporate social responsibility of the contractor. Therefore, close coordination between the contractor and the Office of the Municipal Agriculturist / Office of the Provincial Agriculturist, specifically the focal person of DA-Kasakalikahan, is highly recommended. More so, MAO's of concerned municipality in collaboration with the Office of the Provincial Agriculturist shall take the full responsibility in the implementation of IPM and/or the KASAKALIKASAN Program.

vii. Social and Environmental Impacts

Environmental and Social Management Plan (ESMP)

Site and Design Consideration

1. The Road does not encroach into or traverse any declared protected area of natural habitat. It was constructed/opened by the municipal LGU's around 3 decades ago. Due to insufficient fund of concerned government agencies, a significant portion of the proposed project, up to now, remains graveled and earth roads.
2. To a certain extent, the road opening followed the DPWH standard, and therefore, its upgrading or rehabilitation will not

displace, disfigure or render inoperable/inaccessible any monument or physical structure of known cultural and historical significance.

TABLE 20. Environmental Issues and Mitigation

Issue (Potential Impact)	Assessment (Sample assessments)	Mitigation Measure	Schedule of Mitigation Measure / Indicative Cost	Instrument of Implementation (POW, Contract, IDP, or O&M Plan)*	Responsible Unit
1. Presence of IP/ICC in the influence area	<p><input type="checkbox"/> There is no IP/ICC in the area as per LGU records and on site validation and will not traverse an ancestral domain.</p> <p><input type="checkbox"/> The site is inside the ancestral domain or will traverse by the project.</p> <p><input type="checkbox"/> The road is not inside nor traverses any ancestral domain. However, there are IP/ICC in the area.</p>	<p><input type="checkbox"/> FPIC</p> <p><input type="checkbox"/> Certification from the Tribal Chieftain expressing support to the project</p> <p><input type="checkbox"/> Evidence of broad-based consultation</p> <p><input type="checkbox"/> IP/ICC are minority of the beneficiaries. An IP/ICC development plan has been established as seen in the Annex H-1. Part of the measures in supporting IP/ICC is to provide them with interventions as stated in Annex H-1.</p> <p><input type="checkbox"/> No measure required</p>	Prior to implementation	Consultation Meeting, Documentation	LGU
2. Cutting of Trees	<p><input type="checkbox"/> The road construction will necessitate cutting of trees:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Coconut <input type="checkbox"/> Fruit Trees <input type="checkbox"/> Forest Species <p><input type="checkbox"/> The trees to be cut are privately owned</p> <p><input type="checkbox"/> The road construction will not necessitate the cutting of trees since the trees are</p>	<p><input type="checkbox"/> Secure cutting permit from:</p> <ul style="list-style-type: none"> <input type="checkbox"/> PCA <input type="checkbox"/> DENR-CENRO <p><input type="checkbox"/> Secure permission from the owner to cut the trees</p> <p><input type="checkbox"/> No measure required</p>	Prior to implementation	Waiver of Rights/Quit Claim (if the trees will be donated as reflected in Form 1)	LGU

	usually standing at the edge of the provision for shoulders and important for soil conservation and arrest soil erosion.				
3. Demolition and Reconstruction of affected structures	<input type="checkbox"/> Permanent structures (e.g. concrete structures) will have to be removed/demolished during road construction <input type="checkbox"/> Temporary structures will have to be removed/demolished during road construction <input type="checkbox"/> The road construction will not affect any permanent or temporary structures	<input type="checkbox"/> Compensate the owners of the structures that will be affected <input type="checkbox"/> Assist the owners of the structure in relocating/rehabilitating the affected structures <input type="checkbox"/> No measure required	Prior to implementation	MOA with the owner/s (if he/she/ they will require compensation/ assistance) Waiver of Rights/ Quit Claim (if the owner/s will not require compensation as reflected in Form 1)	LGU
4. Conversion of Land – use/natural habitat due to quarry	<input type="checkbox"/> Quarry Site is existing and proven as a good source of materials	<input type="checkbox"/> Quarry materials will be procured from existing sites: 1) Basud, 2) Daet and 3) San Lorenzo Ruiz which are in a distance of 2-8 kilometers from the subproject site.	During implementation	Certificate	
5. Potential damage to existing road due to hauling of quarry materials	<input type="checkbox"/> Sources of Quarry will cause damage to existing roads <input type="checkbox"/> Sources of Quarry will not cause damage to existing roads	<input type="checkbox"/> Regular maintenance and repair of existing road by the contractor <input type="checkbox"/> No measures required	During implementation	Contract	Contractor
6. Temporary increase in sedimentation during construction	<input type="checkbox"/> Topography of the road alignment necessitate massive earthmoving and cutting of clayey or loose topsoil <input type="checkbox"/> Cut materials will consist mainly of hard rocks and are unlikely to generate significant sediments	<input type="checkbox"/> Earthmoving/ cutting of slopes to be done during dry months <input type="checkbox"/> Proper disposal and compaction of spoils <input type="checkbox"/> No measures required	During implementation	DED/POW; Contract	Contractor

7. Potential contamination of surface and groundwater with oil/grease	<input type="checkbox"/> Waste oil and grease from equipment could contaminate surface water <input type="checkbox"/> There will be no or insignificant amount of waste oil/grease	<input type="checkbox"/> Proper handling and disposal of waste oil and grease	During implementation	Contract	Contractor
8. Potential contamination with human waste	<input type="checkbox"/> Construction workers would be temporarily housed in a base camp <input type="checkbox"/> Workers would be mostly locals and are expected to go home to their respective houses after works	<input type="checkbox"/> Set up adequate latrine/toilet facility at the base camp for other workers	During implementation	Contract	Contractor
9. Potential dust/mud nuisance during construction	<input type="checkbox"/> Roads could become powdery during dry days and muddy during rainy days of the construction period <input type="checkbox"/> Access road and/or the construction/rehabilitation works passes through a populated area <input type="checkbox"/> Access road and/or construction/rehabilitation does not pass through any populated area	<input type="checkbox"/> Undertake sprinkling of road (including access roads) during dry days, and filling up of potholes during rainy days, especially in residential areas <input type="checkbox"/> Set up speed limits for vehicles, especially within residential areas <input type="checkbox"/> No measures needed	During implementation	Contract	Contractor
10. Inadequate drainage resulting in flooding or ponding	<input type="checkbox"/> The road will block runoff, resulting in flooding on one side of the road during rainy days. <input type="checkbox"/> Drainage issues unlikely	<input type="checkbox"/> Installation of cross drain/s at the following stations: *0+528 - Replacement of RCPC; *0+670- Replacement of RCPC; *0+780- Replacement of RCPC; *2+175- Replacement of RCPC; *2+390- Replacement of RCPC; *2+607-	During implementation	DED	Contractor

		<p>Replacement of RCPC; *2+763- Replacement of RCPC; *3+190-Proposed RCPC; *3+515- Replacement of RCPC; *3+730- Replacement of RCPC; *3+755- Adding of 2 lines RCPC; *4+107- Replacement and adding of 2 lines RCPC; *4+267- Replacement of RCPC; *4+400- Replacement of RCPC; *4+620-Adding of 4 pcs RCPC; *4+740- Replacement of RCPC; *4+943-Adding of 4 pcs RCPC; *5+090- Replacement of RCPC;</p>			
11. Landslide/ erosion of exposed road sides resulting in sedimentation of waterways	<p><input type="checkbox"/> The road will traverse a mountainous area necessitating deep cuts on mountainsides, particularly between station ____ and ____, etc (check DED for deep cuts)...</p> <p><input type="checkbox"/> The exposed slopes will likely consist of highly erodible loose materials</p> <p><input type="checkbox"/> The cut slopes will be hard materials that would resist erosion</p> <p><input type="checkbox"/> The road passes</p>	<p><input type="checkbox"/> Include slope protection works at the following stations:</p> <p><input type="checkbox"/> Bioengineering with geomat and cover crop <input type="checkbox"/> Fast growing shrub species <input type="checkbox"/> Riprap</p> <p>*Sta. 0+200 to Sta. 0+240; *Sta. 1+160; *Sta. 1+840; *Sta. 2+180; *Sta. 2+300; *Sta. 2+400; *Sta. 2+760 to Sta. 2+800; *Sta. 2+880; *Sta. 3+100; *Sta. 3+160 to Sta. 3+180;</p>	During implementation	DED/POW Or (if budget does not permit) LGU Commitment Letter	Contractor

	<p>through a relatively benign terrain, cuts will be minimal</p> <p><input type="checkbox"/> The rehabilitation work does not involve additional road cuts</p>	<p>*Sta. 3+420; *Sta. 3+500 to Sta. 3+520; *Sta. 3+620; *Sta. 3+660; *Sta. 3+700 to Sta. 3+720; *Sta. 3+900 *Sta. 4+100 to Sta. 4+120; *Sta. 4+360 to Sta. 4+640; *Sta. 4+740 to Sta. 4+760; *Sta. 4+860 *Sta. 4+940 *Sta. 5+080 to Sta. 5+100; <input type="checkbox"/> Gabions <input type="checkbox"/> Terracing <input type="checkbox"/> Concrete protection wall <input type="checkbox"/> Others _____)</p>			
12. Presence of dangerous road sections due to road topography and elevation	<p><input type="checkbox"/> Poor horizontal and vertical road alignment</p> <p><input type="checkbox"/> High road embankments pose hazard to road users</p>	<p><input type="checkbox"/> Provision of Guard Rails/Concrete Railings at the following stations _____ _____</p> <p><input type="checkbox"/> Planting of hedgerows at the following stations _____ _____</p> <p><input type="checkbox"/> Provision pavement markings to critical curves</p> <p><input type="checkbox"/> Installation of road signs at the following stations *Sta. 0+050 – Road Junction; *Sta. 0+657 – Road Narrows *Sta. 1+015 – Road Narrows; *Sta. 1+422 – Road Narrows; *Sta. 1+090 – Road Narrows; *Sta. 5+039– Pedestrian Crossing; *Sta. 5+079– Pedestrian Crossing; *Sta. 5+080 – Road</p>	During project implementation	POW	Contractor

		Narrows; and *Sta. 5+570 – Road Narrows. <input type="checkbox"/> Set speed limit			
13. Possible discovery of artefacts, bones, and other objects of interests during construction of the road	<input type="checkbox"/> Discovery of artifacts bones and other objects of interests within 10 meter radius <input type="checkbox"/> Discovery of artifacts bones and other objects of interests outside 10 meter radius	<input type="checkbox"/> Suspension of the activities and immediately report to the PLGU and RPCO SES Focal Person	During implementation	Contract	Contractor/LGU
14. Potential disruption of traffic flow	<input type="checkbox"/> The access road and/or segments to be rehabilitated need is vital to daily activities of the residents and farmers and need to be kept open to traffic during construction <input type="checkbox"/> The construction will not affect daily movement of residents and farmers	<input type="checkbox"/> Keep the road open to traffic flow and minimize disruptions along the access road and/or construction area; Provide adequate warning signs and traffic personnel when necessary; <input type="checkbox"/> Undertake regular maintenance measures on the passable portions of the roads <input type="checkbox"/> No measures needed	During implementation	Contract	Contractor
15. Local employment	<input type="checkbox"/> Construction will provide local employment opportunities that will provide a standard salary wage based on RTWPB approved wage rates. <input type="checkbox"/> Construction does not provide any local employment opportunities	<input type="checkbox"/> Hiring priority shall be given to qualified local residents <input type="checkbox"/> No measures required	During implementation	Contract	Contractor