Republic of the Philippines
PROVINCE OF SOUTHERN LEYTE

PHILIPPINE RURAL DEVELOPMENT PROJECT (PRDP)

Rehabilitation and Improvement of San Roque-Bahay Farm to Market Road

EXECUTIVE SUMMARY

A. Project Title: **Rehabilitation and Improvement of San Roque-Bahay Farm to Market Road**

B. Project Location: Liloan, Southern Leyte

C. Project Type: Road Rehabilitation and Improvement

D. Project Scale/Dimension: 19.4 kilometers with 3 bridges

E. Project Proponent: Provincial Government of Southern Leyte

F. Implementing Unit: Provincial LGU

G. Total Number of Barangays of the Municipality: 24 Barangays

H. Mode of Implementation: By Contract

I. Direct Road Influence Area:

Barangay	Land Area (has.)	Total Agricultural Area/Brgy. (has.)	Crops
San Roque	171.33	158.5	Coconut, Corn Upland Rice, Banana, Root Crops
Anilao	254.60	143.14	Coconut, Corn Upland Rice, Banana, Root Crops
Candayuman	260	144.77	Coconut, Corn, Banana, Root Crops
Guintoylan	402.77	258.72	Coconut, Corn, Upland Rice, Banana, Root Crops
Estela	490	387.32	Coconut, Corn, Banana, Root Crops
Pandan	580	235.8	Coconut, Corn, Banana, Root Crops
Caligangan	710	480.61	Coconut, Corn, Upland Rice, Banana, Root Crops
Catig	415.80	208.85	Coconut, Corn, Banana, Root Crops
Malangza	450	313.53	Coconut, Corn, Banana, Root Crops
Pres. Quezon	640	136.19	Coconut, Corn, Banana, Root Crops
Bahay	486.70	258.79	Coconut, Corn, Banana, Root Crops
Saub	154.16	164.07	Coconut, Abaca, Banana, Root Crops
Bitoon	77.73	86.84	Coconut, Abaca, Banana, Root Crops
San Ramon	90.28	98.39	Coconut, Abaca, Banana, Root Crops
TOTAL AGRICULTURAL AREA OF THE RIA	**5,183.37**	**3,075.52**	

J. Project Beneficiaries within the RIA: 10,532 population;
Male – 5,180, Female – 5,352
2,203 Households

K. Total Project Cost and **Php 232,951,799.24**

Cost Sharing:

WB Loan Proceeds (80%): Php 186,361,439.39

GOP (10%): Php 23,295,179.92

LGU Equity (10%): Php 23,295,179.92

L. Economic Viability Indicators: ENPV (‘000s): 41,843.26

EIRR: 18.21%

BCR: 1.20

M. Conclusion and Recommendations

After computations and analysis were done, the project is found to be feasible from the marketing, technical, operational and economic point of view. Hence, the project is worth pursuing and is highly recommended for approval and inclusion in the Philippine Rural Development Project (PRDP) I-BUILD component.

d. Social Analysis

i. Project beneficiaries

Residents of the 11 barangays of San Roque, Anilao, Candayuman, Guintoylan, Estela, Pandan, Caligangan, Catig, Malangza, Pres. Quezon and Bahay in Liloan, are the direct beneficiaries of the proposed FMR, while the three barangays of Saub, Bitoon and San Ramon in San Ricardo are the indirect beneficiaries. The total population of the 14 barangays who can benefit with the rehabilitation and improvement of the 19.4 FMR are 10,532 of which 5,180 are males and 5,352 are females. There are about 2,203 households in the sub-project area (NSO 2007).

In 2012, there are a total of 4,475 coconut farmers in the municipalities of Liloan and San Ricardo where the 14 beneficiary barangays are located. There are 3,240 and 1,235 coconut farmers in Liloan and San Ricardo respectively (BAS & PCA). Most of the residents in the RIA are small farmers whose income from the coconut industry is not enough to adequately meet their basic needs. The low income of coconut farmers could be attributed to very low price of copra in the local and world market.

To ensure social safeguard, last March 2014, several consultative meetings were conducted and attended by either heads of the households or their representatives, mostly mothers or women who expressed their difficulties in finding other sources of income or livelihood opportunities because of the present road condition. During the meetings, the attendees were oriented with the program, the description of the proposed project and the possible effects of the project to the properties of the households living along the road. The barangay officials as well as the heads or representatives of the households both men and women expressed their appreciation and support to the proposed project. It has been their dream long time ago that said FMR will already be rehabilitated and improved to ensure safety in their travel, improve their access to basic services and more importantly to spur economic activity in the area. They are wiling to quit claims or donate the affected area as a result of the rehabilitation and improvement of the existing FMR.
(See Annex B for the minutes, resolutions and attendance and Annex C - pictures of the consultation meetings).

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

There is no Indigenous Cultural Community/Indigenous People and ancestral domain in the proposed sub-project area for this is an existing farm to market road subject for rehabilitation and improvement. A Certificate of Non-Overlap and the certification that there is no IP in the province has been issued by NCIP. (See Annex D for the letter request and the Certificate of Non-Overlap –CNO issued).

iii. Site and Right-of-Way acquisition

The occupants of the parcels of registered land along the proposed sub-project area are either Original or Transfer Certificate of Title as proof of ownership or just exercising the rights over the parcel they are tilling and/or residing. The area is generally classified as agricultural and residential.

San Roque-Bahay road is an existing farm to market road. Hence, the road right of way was already established during the opening and construction of the road sections before. The owners of the affected lots were already compensated. However, there were structures and crops that encroached in the 1.5 m. shoulder and 1 m. canal on both sides of the road. The width of the road is 10 m. (5 m. carriageway, 1.5 m. shoulder and 1 m. canal on both sides).
(See Annex E for the certification signed by the Municipal and Provincial Assessor and Annex F for the List of PAPs per barangay).

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

There will be trees and crops, structures such as fences and portions of houses made of light materials and some concrete, temporary market stalls, portions of sari-sari stores, and electric posts that will be affected because of the encroachment in the 2.5 m. shoulder and canal of the existing road. During the consultative meetings held in March 2014, the owners or occupants expressed their willingness to quit claims for those affected crops/trees and houses/properties. They gave their full support to the proposed sub-project for their own benefit and the future generations. The proposed sub-project will lower the cost of inputs, increase productivity and increase rural competitiveness.

The MLGU, together with the BLGUs, agreed to replant the same number of trees affected in the same barangays. They also have tree planting activities every now and then in the identified rain-induced landslide prone areas of Liloan. Please refer to table below for the list and number of crops affected by barangay.
(See Annex G for the survey forms 1 & 2 and waiver of right/quit claim).

The contractor of the sub-project will be responsible in the demolition of the abovementioned structures as provided for in the scope of work. There will be no relocation of affected structures involved.

Letter requests were sent to the Phil. Coconut Authority (PCA) and Community Environment and Natural Resources Office (CENRO) for the cutting permits, and So. Leyte Electric Cooperative, Inc. (SOLECO) for the electric posts affected.
(See Annex H Letter Request sent to PCA; Annex I for the letter request and cutting permit given by CENRO; Annex J for the letter request and reply of SOLECO).

Table 10: Type and Total Number of Crops Affected per Barangay

Name of Barangay	Type of Crops Affected		
	Coconut Trees	Forest Trees ("Acasia," "Tipo" & "Aurey")	Fruit Trees
SAN ROQUE	0	0	0
ANILAO	0	0	7
CANDAYUMAN	0	0	0
GUINTOYLAN	0	0	0
ESTELA	0	0	0
PANDAN	0	0	2
CALIGANGAN	10	0	7
CATIG	29	6	0
MALANGZA	49	6	10
PRES. QUEZON	21	0	0
BAHAY	40	15	2
TOTAL	**149**	**27**	**18**

v. Physical displacement of persons

There is no displacement of persons/properties or relocation of houses in the road influence area since this is an existing farm to market road.

vi. Economic displacement of persons

Being an existing road, the proposed sub-project will not cause any loss of livelihood or reduce access of families to their traditional livelihood sources. Some coconut trees and other crops will be affected but the economic value of those crops is minimal. It will not result to economic displacement of persons in the RIA. Some sari-sari stores and temporary market stalls will also be affected but they will not be economically displaced since the stores/stalls won't be closed. They will just transfer or moved to a better area.

The implementation of the proposed sub-project will increase livelihood opportunities not only for the people in the area but also for the neighboring barangays and municipality.

vii. Grievance Redress Mechanism (GRM)

The implementation of the proposed sub-project (Rehabilitation and Improvement of San Roque-Bahay FMR under the Philippine Rural Development Project), is the most welcomed and long awaited development in the direct road influence area of the sub-project in the Municipality of Liloan. It is supported by all sectors of society, taking into consideration its social and economic impacts.

There is no foreseen major complaints from the dissatisfied beneficiaries and persons affected by the project, considering that the proposed project were thoroughly discussed during the consultation meetings conducted in the eleven barangays within the road influence area. All questions were properly answered and settled. However, the Municipal Mayor of Liloan and the Provincial Governor issued Special Order No. 01 S. 2015 dated May 6, 2015 and Exec. Order No. 018 S. 2015 dated May 6, 2015, respectively, creating the Municipal and Provincial Grievance Committees for the Implementation of the proposed sub-project. The provincial GRM is composed of the following:

Engr. Jesse R. Quilantang, Prov'l. Administrator - Chairman
Mr. Crispin M. Arong, Jr., Provincial Accountant - Member
Atty. Rafael Cromwell T. Gerong, Prov'l. Legal Officer - Member

The committee will see to it that all complaints which may be received be given immediate action and resolution for a smooth implementation of the sub-project. The Grievance Redress Committee will convene at once if any of the project-affected persons (PAPs) files a complaint in order to settle any concerns that will arise during project implementation. (Please see Annexes for the Special Order and Exec. Order)

In addition, once the sub-project has been approved and started implementation, GRM information materials will be provided to all beneficiaries. GRM posters will be installed in the municipal and barangay halls, including other strategic places. GRM tarpaulins will also be posted beside the subproject billboards.

e. Environmental Analysis

i. Natural habitat

The proposed project shall be located in the Municipality of Liloan. It will traverse the 11 rural and coastal barangays of San Roque, Anilao, Candayuman, Guintoylan, Estela, Pandan, Caligangan, Catig, Malangza, Pres. Quezon and Bahay. The land use in these areas is focus on agriculture with coconut as the dominant crop. Exotic and indigenous tree species, coconut trees, banana, corn, bamboo and fruit trees, and rice land are observed on both sides of the road. The barangays covered has a natural habitat for both forest and marine ecosystem. The area is not a wildlife habitat nor within an officially declared or proposed protected area. The eleven (11) barangays enjoy the presence of 17 water ecosystems that could provide water for domestic use. It is also the home to endemic freshwater species. Liloan use the ridge to reef planning and management approach to ensure that their natural habitat will not be overexploited. Marine Protected Areas are established and reforestation program for both in the upland and mangrove areas were implemented.

ii. Physical Cultural Resources

The construction of the proposed farm to market road does not traverse any cultural property or resources. There are no observed monuments or archaeological sites in the area. However, in the event that there will be archaeological chance finds, the following procedures are to be followed:

- All quarrying activities in the vicinity should be ceased immediately.

- Undertake delineation subsequently, such as sketch out drawing, description, depiction and photographs of unearthed find materials.

- Record the site location with ground references/coordinates, and maintain the archaeological features at incorruptible position and condition.

- Reinforce the site with security measures if deemed necessary to avoid damage or loss of removable artifacts.

- Immediate notification of the site engineer who in turn will consult and inform the project archaeologists, local or national statutory authorities and (National Museum Service) to take the appropriate course of action.

- Project health and safety protocols should be in accordance to the directive of Health and Safety Authority.

- Provide sub-site office and finds storage if necessity arises, keeping the recovered artifacts and other archeological objects stored or undisturbed during the process.

- In the case of human skeletal remains discovery, the osteoarchaeologist or other in-charge authority will conduct treatment and examination of remains.

- Once the concessioner has complied with the agreement and guidelines to the responsible statutory authorities, He will be informed when to resume the operation

iii. Terrain, Soil Types and Rainfall

The 11 barangays of the RIA are located in the relatively narrow flat land along the coastal areas of Liloan while Saub, Bitoon and San Ramon are situated in the rolling and sloping coastal plains of San Ricardo.

Based on the Municipal Agriculture Office records, there are four major soil series identified in Liloan. They are the Bongliw estimated to spread in an area of about 4 thousand hectares, Panaon Clay about 950 hectares, Himay-angan Clay 755, Guimbal-an 600 and Umingan series around 984 hectares. These are predominantly found at the upland areas and are suitable for field crops production. Hydrosal, sandy and gravelly types of soils are found along the coastal area and are good for fishpond development. In San Ricardo, sandy loam and clay loam soils are the prevalent soil types in the coastal plains and upland areas and in the portion of Hinawanan Plateau.

Both Liloan and San Ricardo are noted for the type II climate. This climate is characterized by the absence of a dry season and the predominance of a very pronounced maximum rainfall from November to January.

Based on the records of the Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA) Maasin City Weathering Station, rainfall in the province is abundant all year round which ranges from 1,116 to 4,516 millimeters annually in the past 23 years from 1990 to 2013 and well above the national average which varies from 965 to 4,064 millimeters annually. These translate to a mean or average annual rainfall of 372.22 millimeters for the entire province. Rainfall pattern of the province is sporadic over the past 23 years. (No data on the amount of average rainfall per municipality).

iv. Hazard/Risk Assessment

Historically, the sub-project area experienced minor floodings, erosion and landslide in the past. Based on the Disaster Risk and Vulnerability Assessment (DRVA)

Report of the province, most of the barangays in the sub-project area are highly susceptible to rain-induced landslide, flood, ground shaking, storm surge and tsunami. (See Annex K for the Hazard Susceptibility by Barangay).

In the implementation of the proposed project, a storm water run-off is expected as a result of a wider span of cleared area for the ROW and the increase of run off coefficient. Flooding on the road surface can be mitigated by the introduction of road cambers leading the run-off immediately outside of the roadway to the intercepting canals and drainage outlets. To minimize the increase of the quantity of flows on the receiving streams and rivers, appropriate flooding measures such as planting of trees and vegetation on riverbanks should be done, and by way of infiltration, the stream flow will be lessened. For slope protection guard rails will be put up as a mitigation measure for erosion and landslide. There will also be road signs for the dangerous parts of the road.

Upon construction of the bridges some potential hazards/risks with its corresponding mitigation measures are identified including:

- Constant earthmoving activity during wet season poses heavy earth sludge in roadway construction.

- Washing water from the crusher and batching plant that contains cement and wet sludge may result in siltation in immediate grounds.

  (To mitigate these risks, it is essential that temporary earth mounds are constructed, i.e., sedimentation/stilling pond, in the proximity of earthworks area. This should serve as a trap of liquid matters. The runoff/washing water in ultimate turbidity should pass through the said barriers and suspend the particulates before descending down into receiving water bodies.)

- Prolonged turbidities due to excavations for Bridge Structure foundations will have a potential impact to aquatic species.

- Casting in-place of concrete bridge foundation below the riverbed with fresh concrete will kill aquatic plants and animals.

- Narrowing of water channel in constructing bridges and by-pass bridges increases water velocity that can cause changes of river morphology.

  (To mitigate said hazards, there is a need to construct temporary diversion channel to prevent water from passing through the excavation. To ensure that no water in contact with liquid cement, total dewatering on the excavated base while pouring the forms of structure should be undertaken and proper spanning of abutments will be provided.)

Aggregates in quarry source are finite resources and must be sustainable. With regards to the potential hazards/risks on quarry source and its availability, a quarry site has already been designated and was certified by the DPWH to be of substantial source and of good quality materials. One possible risk on effects of hauling of quarry materials is the damage to existing roads during its transportation from the source to FMR. To mitigate this, there will be regular maintenance and repair of existing roads.

The potential hazards of Batching Plant set up by contractor within the vicinity of the project site are dust emissions, siltation, water quality degradation and disturbance to wildlife. The identified mitigation measures are that, the proponent shall select the plant site out from high prevailing winds, it thus enables the position of moving components of Plant being off from the effects of winds, or, it could be the area of dust-sensitive receptors/land uses against the leeward direction of the prevailing winds blowing dust from the Plant. Another measure is to provide stilling pond to minimize siltation of close surroundings and the selection of available wide free space land as the location of the plant site.

v. Integrated Pest Management (IPM)

One of the objectives of the Dept. of Agriculture is to increase farmer's income by increasing farm productivity. However, human health and environmental safety should be taken into consideration to ensure farm sustainability. The IPM aims to address these issues on helping farmer's develop, make critical and informed decision to render crop production more productive, profitable and sustainable.

As part of the advocacy of the Municipal Agriculture Office (MAO) of Liloan, agricultural technicians conduct trainings/seminars to farmers on crop production the IPM way, underscoring the need to use appropriate crop varieties, good agricultural practices, organic farming, and control of insect pest diseases using biological and cultural control. The use of chemical pesticides is discouraged to provide safer environment and healthy living to both farmers and consumers.

Regular monitoring of farmer's activities before, during and after the completion of the FMR shall be in coordination with the DA-RFO8, Provincial Agriculturist Office and the MAO of Liloan to make sure that green agricultural practices (GAP) is adopted by the farmers.

vi. Status of Environmental Clearance (CNC/ECC)

The proposed Rehabilitation and Improvement of San Roque- Bahay Farm to Market Road falls on Category B as per DAO-03-2030 Procedural Manual. It needs an ECC. An ECC was already issued by DENR-EMB RO8 for this purpose. (See Annex L).

Cutting tree permits were issued for the coconut/fruit trees and exotic/indigenous trees that will be affected. (See Annexes G and H for the letter requests for PCA and CENRO and for the cutting permits). A certification was issued by the Department of Public Works and Highways (DPWH) for the accreditation and source of quarry materials, and certifications from the two (2) barangays and the landowners of the identified dumping sites. (See Annexes M and N for the certifications and Annex O for the Pictures of the Quarry Site).

vii. Social and Environmental Impacts

A road project has both positive ad negative impacts on social and environment. Assessment was done to come up with an Environmental and Social Management Mitigation Plan. Several issues were identified such as damage to standing crops and structures, temporary increase in sedimentation during construction, potential contamination of surface and groundwater with oil/grease, landslide/erosion of exposed road sides resulting in sedimentation of waterways, inadequate drainage resulting in flooding or ponding, among others. During construction residents maybe disrupted and inconvenienced by detours, local road closure, dust, noise, heavy equipment traffic on existing roads and interference with emergency services. However, residents may benefit from construction employment. Despite all of the issues and potential impacts identified (pls. refer to ESMP) road rehabilitation and improvement conveys socio-economic upliftment of the people in the area.