D. SOCIAL ANALYSIS

i. Subproject Beneficiaries

Beneficiaries

The project will directly benefit 1,008 household comprising of 4,740 population with 2,566 males and 2,284 females within the influence area of Brgys. Cogon, Bulao, and Brgy. Mabini. The beneficiaries are mostly farmers. Farming is the dominant livelihood in the project area as such they are farmers, agrarian reform beneficiaries and farm workers who will be the main beneficiaries when the condition of the existing and deteriorated gravel surfaced farm-to-market road is improved to concrete pavement (Table 14).

Table14. Sub Project Beneficiaries

Beneficiary Barangay	Population			# of HH
	Male	*Female*	Total	
Direct				
1.Cogon	648	*564*	1,212	258
2.Bulao	635	*574*	1,099	233
3.Mabini	1,283	*1146*	2,429	517
Total	2,566	2,284	4,740	1,008

Public Consultation

The first barangay consultation was held in the morning of July 28, 2014 in Brgy. Cogon, Basey, Samar. It was followed in the afternoon at Brgy. Bulao, together with the residents of Brgy. Mabini. It was conducted by the Provincial and Municipal employees who are in charge of the Philippine Rural Development Project (PRDP).

In that consultations, which was attended by 35 persons from Brgy. Bulao, 62 persons from Brgy. Cogon, and 20 from Brgy. Mabini, mostly of the women have expressed their desires to improve their living conditions -- the proposal to improve the existing farm-to-market road by concrete pavement that would improve the road that link the farthest, Brgy. Bulao and Brgy. Cogon to Brgy. Mabini and would pass through the intermediate sitios of Rizal and So. Biga. This project was identified as the priority need of the constituents in order for them to have good access to the town proper of Basey where the center of the economy and government services are situated – since Brgy. Cogon is connected to the provincial road leading to the town proper by a paved farm-to-market road.

The participation of men and women during the consultation was also a way of involving the people that they would not think that they are being left out in the development efforts of the national government and that they would feel more involved as recipient of the interventions initiated at the national levels.

The beneficiaries accepted the proposed project. The concern on RROW was discussed and because of the acquisition of RROW was already concluded in the previous project (gravel road) it will pose no problem in this case.

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

The project site is not inside an ancestral domain hence no indigenous cultural/indigenous people will be affected in the implementation of the project. The project area do not have transient IPs and communities.

iii. Site and Right-Of-Way Acquisition

The right-of-way and site acquisition is no longer an issue in this project as these were addressed during the pre-construction phase of the previous FMR project – now the deteriorated and proposed for improvement with concrete carriageway under the PRDP of the DA.

The ROW is now the property of the Municipal Government of Basey – but the documents to this effect were lost to Super Typhoon Yolanda and the reconstruction of these documents will take a much longer time to finish. In lieu of the lost documents, the proponent will submit the following documents:

1. Sangguniang Bayan Resolution – attesting ownership of the ROW of the project FMR
2. Minutes and Attendance Sheets – of the consultation meeting conducted in the area for the enlightenment of the constituents on the PRDP and the right-of-way of the project.
3. Certification from the PAPs that they were compensated

The RROW is nine meters wide by 11.66 kilometers long traversing agricultural land. During the validation it was observed that minor encroachment in the RROW specifically on the road shoulders were observed. School and housing fence, and electric posts encroach in this part of RROW.

The RROW problems will be tackled and resolved accordingly prior to the implementation of the project.

iv. Damage to Standing Crops, Houses And/Or Properties

Damage to standing crops, houses, and/or properties is no longer an issue in this case because what we have here is an existing but deteriorated farm-to-market road (gravel road) that is to be improved into a concrete paved farm-to-market road. No standing crops nor properties are within the right-of-way of the road except for a small portion of the house of a barangay Chairman of Brgy. Bulao that encroached into the shoulder of the road.

Additionally, there are school and housing enclosures or fences made up of light material like wooden posts and bamboos that encroached into the road shoulders. The removal of these light structures was discussed during the consultation and it was agreed that the housing fences will be relocated outside of the RROW.

Electric posts were also observed to have been erected inside the road right of way. A letter request to the management of the electric power cooperative (SAMELCOII) for the immediate relocation of these posts outside the RROW was sent. And coordination by the proponent with the cooperative for the relocation of the posts is in effect.

There are 6 trees to be cut in the road right of way area. These includes one (1) gemelina tree, four (4) mango trees, and one (1) santol tree.

v. Physical Displacement of Persons

The physical displacement of persons is not an issue in this case as there will be no persons that will be displaced in the implementation of the project. Instead the people will stay in the project area because of the benefits that the project will unfold to them like livelihood services, social services, government services, and access to markets.

vi. Economic Displacement of Persons

No livelihood of the beneficiaries will be affected in the implementation of the project, hence no economic displacement of person/s in the project will happen. Instead, economic activities will advance as farmers will be motivated to produce more – given the benefits they will enjoy from the project when it is completed, i.e. accessibility of market, savings in transportation costs, drastic reduction in travel time, easy access of government services to the area, opening of new opportunities for livelihood projects for the mothers/women in the area, etc.

vii. Grievance Redress Mechanism

Executive Order No. 5 series of 2015 was issued by the Governor, creating the Grievance Redress Mechanism (GRM) Committee for the PRDP. It is an integral part of project management element that intends to seek feedback from beneficiaries and resolve of complaints on project activities and performance. The mechanism will ensure that 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.

GRM shall ensure that the right and interest of the people specially living in the influence area of the project are protected against poor project implementation. ***(For further information refer to the attached document – Executive Order No. 05, Series of 2015: An Order Creating the Grievance Redress Mechanism (GRM) Committee for the Philippine Rural Development Program)***

E.ENVIRONMENTAL ANALYSIS

i. Natural Habitat

No river, no creek, and no spring will be affected into nor be destroyed when the project start construction because the project site is not inside an officially declared or proposed area of a protected natural habitat. The project will pass through agricultural lands, i.e. coconut lands, rice paddies, upland rice farms, banana and root crops plantations, grasslands and open spaces that are potential for agriculture expansion.

ii. Physical Cultural Resources

The project will not affect any physical or cultural resources or structures. The improvement of the farm-to-market road, when completed, will complement two (2) major government programs that are on-going implementation/construction in the area. It will serve as access road to the on-going construction of the irrigation facility situated near Brgy. Mabini where the vast source of

irrigation water is located, and, to the tourist attractions (caves, Underground River, other natural attractions) situated in the nearby barangays. ***(Refer to Annex H-2: DA-PRDP's Archaeological and Paleontological Chance Finds Procedure for Subprojects.)***

iii. Terrain, Soil Types and Rainfall

The project site is characterized by a flat to rolling terrain with a maximum gradient of about 15% in about 2 or 3 locations along the entire length of the road, otherwise it is mostly flat. The soil type in the project area is classified as Catbalogan Clay Type of reddish color. It is observed to compose primarily of clayey soil with a general sub-grade rating of fair to good.

Two types of season normally occur in the project area – the dry and the wet seasons. The rainy season starts in May and normally ends in December with pronounced heavy rainfall occurring during the months of November that sometimes last until January. Heavy rainfall causes flooding of the area of up to 5 meters.

No available rainfall data in the project area but only the provincial data. Rainfall in Samar is abundant all year round which ranges from 2,577.6 to 5,227.2millimeters annually in the past ten years covering 2003 to 2012 (Table 15) and above the national average which varies from 965 to 4,064 millimeters annually. These translate to a mean annual rainfall of about 3,273.38 millimeters for the entire province.

Records of the Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA) Catbalogan Weather Station show that the greatest amount of rainfall which the province receives was in February 2008 recording a monthly rainfall of 1,111 millimeters, which was attributed to continuous heavy rains during the northeast monsoon or "Amihan". Extreme rainfall such as this is considerably intense and could trigger flooding and destroy agricultural crops especially in the low lying areas. The least amount of rain was recorded in February 2010, is only 7.90 millimeters because of the occurrence of "El Niño" which lasted for five months from February to June. The lack of rain could result to the reduction of water supply should thus be considered concerning the allocation and use of land.

Table 15. Monthly and Mean Rainfall in Millimeters, 2003-2012, Province of Samar

Month	10-Year Period										Monthly Mean
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	
1. January	211.9	340.5	106.7	142.9	285.2	327.8	293.3	337.9	991.6	456.8	349.5
2. February	25.7	176.8	77.5	261.7	49.1	1,111.0	349.7	7.9	135.1	372.6	256.7
3. March	83.4	179.7	149.9	249.1	104.5	223.5	136.5	142.9	823.8	430.2	252.4
4. April	18.6	99.3	82.9	64.7	61.8	198.1	296.6	63.7	173.9	128.0	118.8
5. May	157.1	333.4	100.7	316.9	177.6	468	145.4	73.2	669.9	144.5	258.7
6. June	495.0	110.9	144.8	99.3	128.1	364.5	550.0	99.9	235.8	261.7	249.0
7. July	409.8	209.0	206.7	215.4	286.9	187.9	140.6	401.7	467.1	415.7	294.1
8. August	182.4	144.2	128.6	203.9	176.1	236.6	247.4	281.8	245.5	18.7	186.5
9. September	146.2	161.4	473.0	486.4	207.6	279.9	180.1	453.6	454.7	438.0	328.1
10. October	216.5	359.0	264.1	283.9	329.9	276.1	260.0	348.9	402.2	435.7	317.6
11. November	435.2	350.0	179.7	155.5	481.5	319.2	242.5	193.2	231.2	297.5	288.6
12. December	195.8	256.6	813.3	447.5	497.0	422.4	208.8	248.9	396.4	248.9	373.6
Total Annual	2,577.6	2,720.8	2,727.9	2,927.2	2,785.3	4,415.0	3,050.9	2,653.6	5,227.2	3,648.3	3,273.4
Mean	214.8	226.7	227.3	243.9	232.1	367.9	254.2	221.1	435.6	304.0	304.0

Source: Philippine Atmospheric, Geophysical and Astronomical Services Administration, Catbalogan City Station

iv. Hazard Risk Assessment

Historically, the area particularly So. Biga and Brgy. Mabini had experienced flooding in the past because of the presence of Salughan Basey (one of the 3 major tributary rivers) as catchment

basin for 10,000 hectares of upland eroded and grassland. It was learned that flood height in So. Biga and Brgy. Mabini can reach approximately more than 3 meters high.

To mitigate the flooding of the road, the construction of the old road (gravel road) included the installation of single barrel and double barrel RCPCs in waterways road crossings. These drainage systems in the area is still functional but will still need an additional RCBC, slope protection and line canal.

Steep grounds along roadside shall be trimmed to a desired slope to minimize or prevent soil erosion. The trimmed areas shall be planted to shrubs or small trees and a side ditch canal shall be constructed. Periodic maintenance of the areas shall be done to avoid accumulation of eroded soil and to keep the canal active.

v. Status of Environmental Clearances

Certificate of Non-Compliance/Environmental Compliance Certificate (CNC/ECC)
The proposed project will have a concrete carriageway and would require therefore a Certificate of Non-Compliance/Environmental Compliance Certificate (CNC/ECC) from the DENR per DENR Administrative Order #30 series of 2003. In this regard, the Provincial Government has applied for the required certificate from the Environment and Management Bureau of the DENR and was correspondingly issued CNC-RO8-1408-0014 in August 14, 2014.

Tree Cutting Permit
Along the ROW, there are existing coconut and other type of trees that needs to removed before the construction. However, after the compliance for the application of the permits by the PLGU, and ocular inspection and validation was conducted by the Department of Environment and Natural Resources (DENR) and Philippine Coconut Authority (PCA) personnel, a Tree Cutting Permit has been issued.

Quarry Permit Location and Source
A copy of the permit granted by the government to the quarry operator as reference for the location of the quarry where the materials for the project will be sourced, are attached together with the SES requirements.

Disposal Sites
The waste disposal or dumping of excess excavated earth materials will be at a portion of land owned by Hilario Jayugue. In relation thereto, a permit of waste disposal was issued by him.

Other Related Clearances
A clearance will be secured from the DENR for the operation of the batching plant which will be located away from the residential area to minimize noise and disturbance.

vi. Social and Environmental Impacts

a. Step-By-Step Activities Which Will Likely Impact in the Locality

The construction of the project requires the following step-by-step activities which will likely have impact on the locality and its adjoining area and the corresponding mitigating measures are identified in the attached ESMP (Figure 4).

Step 1. Clearing and Grubbing. This is the removal of grass, weeds that have grown in the RROW which is 9 meters wide and 11.66 kilometers long.

Step 2. Excavation. The removal of soil and other sub-grade elements to prepare the ground for the construction of the box culvert. This also pertains to the removal of roads sections containing heavy moisture and its replacement with common borrow.

Step 3. Embankment. Embankment is the addition of soil and base coarse materials compacted to a certain degree to meet the required width of the road at a desired grade.

Step 4. Sub Grade Preparation. This is the laying of item 105 over the entire road section and compacting them to the desired compaction level to meet the desired road sb-grade elevation.

Step 5. Aggregate Base Course. This is an aggregate surfacing (item 200) compacted to the required degree of compaction in preparation for the Portland cement concrete pavement placement. The base course will have a 0.20 meter thick on the carriage way extending 1.5 meters on both shoulders of the road.

Step 6. Concreting. This is the mixing of sand, gravel, cement and water to a desired consistency and its placement on top of the base course which will ultimately serve as road carriageway.

This is about Portland Cement Concreting Pavement. This will entail the mixing of sand, gravel and the Portland cement.

a. Air pollution will directly affect the workers only. Houses are situated about 30 meters away from the project site and will not be affected by the pollution.
b. Noise disturbance will not be a problem during the construction of the project as it will be done away from the communities.
c. Waste pollution especially those generated by proper disposal of used oil will be eliminated as the maintenance of the equipment will be done before the start of the project and the disposal of waste used oil, if ever there will be some, will be done appropriately.
d. Riprapping has already been done during the construction of the all-weather road in steep areas to prevent landslide/erosion with a length of 30 meters and 1 meter in height.
e. Rehabilitation of overflow which includes increasing the length of apron in the form of a hydraulic jump. This is to counter the effect of scouring during the flooding.
f. Part of the road maintenance is the establishment of road canal linings on both sides especially on steep grades where scouring is evident.

Step 7. Rehabilitation of Overflow. The length of the apron will be increased through a hydraulic jump to counter the effect of scouring during flooding.

Step 8. Drainage Canal. To maintain the good condition of the road, drainage canals will be established on both sides. But in area where there is a side cut, one side canal lining shall be constructed.

The preparation of the Environmental and Social Management/Mitigation Plan (ESMP) was based on the following Assessments:

b. Environmental Impacts and the Recommendations

Wildlife Habitat. There is no impact on forest habitats as the proposed project will be implemented in area far from wildlife habitats. There will be no wildlife displacements and no cutting of endangered tree species.

Trees that will be cut along the road must be replaced by the proponent by planting endemic tree species along riverbanks or the 10 meters easement area. This will protect the river banks from potential erosion. It can also protect the area from potential flooding.

Water Contamination. The soil type of the area of the proposed project is generally loose and has great potential for erosion or landslide during heavy rainfall. This may bring sedimentation to the river systems. Another possible source of sedimentation is the excavated soil which can be carried by rain to the river systems. These can affect the existing freshwater species and its habitats.

To prevent sedimentation, the proponent will designate an area where excess material excavated will be deposited at least 5 meters from the roadside and far from the rivers and must be in low lying areas to prevent it from flowing to water sources. Areas with steep gradient will be rip-rapped or planted with natural vegetation known as natural matting to prevent soil erosion and landslide. Canal linings will also be established to provide an area for water flow or flow diversion. It can also serve as part of the road maintenance and will ensure that sediments will not directly flow to the river systems. Filter barriers or settling basins for sediments removal must also be established in strategic areas of the project undertaking.

Waste discharge mostly in the form of motor oil must be prevented as this can contaminate water sources. Heavy equipment is likely to contribute this kind of waste hence the proponent shall ensure that equipment maintenance must be done away from the area especially when the equipment needs to change oil.

As the project construction will last for a year, fecal waste is likely to be generated from those people involved in the construction. It must be imperative that water contamination caused by fecal waste must be prevented. Temporary "toilets" will be established far from water sources, especially that for drinking water.

Air Pollution. The proposed project will be established 30 meters away from the nearest houses. Pollution effects must be considered carefully to protect those that will be exposed. Naturally, the pollution that will be generated during excavation and during the mixing of concreting materials will directly affect the people involved in the construction activities. Those involved must be provided by the proponent with helmets, mask and other protective gear known as Protected Paraphernalia's Equipment.

Noise Pollution. The project will be using heavy equipment that can generate noise. While the project may be 30 meters away from the nearest household, it is still imperative that the proponent must regulate the noise that may be generated by noise emitting equipment. It is recommended that the activities must be conducted during daytime so as not to disturb the sleeping hours of the communities and those involved in the construction.

Disruption of traffic flow. A parking area must be designated by the proponent. This will ensure that traffic flow will be smooth during the duration of the project.

Sign boards/Billboards. To inform the communities about the on- going project and provide guidance/ safety of those residing within the vicinities of the proposed project, billboards shall be placed in strategic locations. The Environmental Compliance Certificate issued by the EMB shall also be displayed.

Solid waste management. The project will not only generate air, water and noise pollution, but is also expected to generate solid waste. Among these solid wastes are plastic containers of motor oil, empty sacks of cement and other waste by people involved in construction activities. To prevent litter and secure garbage, trash and solid waste during the construction phase, a Material Recovery Facility must be established as part of the solid waste management by the proponent.

Training on waste management must be provided by the proponent to the communities and to the project implementers. This will ensure that both the project implementers and the communities understand the possible environmental and health impacts of the project and thus endeavor to minimize if not prevent any negative impact.

Integrated Pest Management/KASAKALIKASAN. KASAKALIKASAN, the local name for the Philippine National Integrated Pest Management (IPM) Program, stands for Kasaganaan ng Sakahan at Kalikasan. It was launched to train farmers to empower them to become experts in their own fields by developing their ability to make critical and informed decisions, as well as, to render crop production systems more productive, profitable and sustainable.

IPM is an effective and environmentally sensitive approach to pest control that relies on a lot of common sense practices. It utilizes all appropriate pest management options including, but not limited to, the careful and limited use of pesticides. Similarly, organic principles apply many of the same concepts as IPM, yet they limit the use of any pesticides to those that are produced from natural sources.

The lack of awareness and adoption of the communities in the subproject of this program is a challenge to the implementers to continue its Information and Education Campaign on KASAKALIKASAN/Integrated Pest Management (IPM) through Farmers Field School (FFS) in all municipalities of the province including the subproject. The FFS's includes training the farmers in seed selection, land preparation, rice morphology and integrated soil nutrient management in rice, corn and vegetables.

Heavy Equipment. The proposed project will have a concrete carriageway and would require therefore the use of heavy equipment during the construction. The use of these equipment pose potential short term elevated noise and dust levels and disruption of traffic flow might occur. Mitigation measures will be considered such as: watering of road surfaces at every 2 hours, on-site vehicle speed control, covering/dampening of stockpiles in dry/windy conditions; adoption of quiet powered mechanical equipment; and, set up speed limits for vehicles, especially within residential areas.

Batching Plant. The subproject requires the use of a batching plant to mix and blend cement, water, sand and aggregates to form quality concrete. The use of which might pose possible short term elevated dust and noise levels as well as limited discharge of sediment-laden waste water. Measures to mitigate its possible effects include: watering of road surfaces at every 2 hours, on-site vehicle speed control, covering/dampening of stockpiles in dry/windy conditions; adoption of quiet powered mechanical equipment; and treatment of effluent prior to discharge.