

The ECC application for this particular project has yet to be applied / filed with the Environmental Management Bureau (EMB), Caraga Regional Office in Butuan City. The construction of this proposed farm to market road project will affect portions of cocolands. Some coco trees will be cut down during construction. The number of coco trees that will be affected will be determined during the conduct of actual as take survey, after which tree cutting permit will be applied with the Office of the Philippine Coconut Authority.

7.6 Social and Environmental Impacts

The implementation of the herein project may have minimal effects on the environment but on the other hand may bring positive effects too. These constraints and disadvantages of the project would require mitigating measures that are to be implemented to address environmental concern, as described in the succeeding table/matrix, to wit:

Table 5: Environmental Issues and Mitigation Measures

Issues (Potential Impacts)	Assessments	Mitigation Measures	Schedule/Duration of the Mitigation Measures	Instrument of Implementation (POW, Contract, IDP, or O&M Plan)*	Responsible Unit
1. Temporary increase in sedimentation during construction	<p><input checked="" type="checkbox"/> Topography of the road alignment necessitate massive earthmoving and cutting of clayey or loose topsoils</p> <p><input type="checkbox"/> Cut materials will consist mainly of hard rocks and are unlikely to generate significant sediments</p>	<p><input type="checkbox"/> Earthmoving/cutting of slopes to be done during dry months</p> <p><input checked="" type="checkbox"/> Proper disposal and compaction of spoils</p> <p><input type="checkbox"/> No measures required</p>	During construction	DED/POW; Contract	Contractor
2. Potential contamination of surface and groundwater with oil/grease	<p><input checked="" type="checkbox"/> Waste oil and grease from equipment could contaminate surface water</p> <p><input type="checkbox"/> There will be no or insignificant amount of waste oil/grease</p>	<input checked="" type="checkbox"/> Proper handling and disposal of waste oil and grease	During construction	Contract	Contractor
3. Potential contamination with human waste	<input checked="" type="checkbox"/> Construction workers would be temporarily housed in a base camp	<input checked="" type="checkbox"/> Set up adequate latrine/ toilet facility at the base camp	During construction	Contract	Contractor

Issues (Potential Impacts)	Assessments	Mitigation Measures	Schedule/Duration of the Mitigation Measures	Instrument of Implementation (POW, Contract, IDP, or O&M Plan)*	Responsible Unit
	[x] Workers would be mostly locals and are expected to go home to their respective houses after works	[] No measures required			
4.Potential disruption of traffic flow	<p>[] The access road and/or segments to be constructed is vital to daily activities of the residents and farmers and need to be kept open to traffic during construction</p> <p>[x] The construction will not affect daily movement of residents and farmers</p>	<p>[] Keep the road open to traffic flow and minimize disruptions along the access road and/or construction area</p> <p>[x] Provide adequate warning signs and traffic personnel when necessary</p> <p>[x] Undertake regular maintenance measures on the passable portions of the roads</p> <p>[] No measures needed</p>	During construction	Contract	Contractor
5.Potential dust/mud nuisance during construction	<p>[x] Roads could become powdery during dry days and muddy during rainy days of the construction period</p> <p>[x] Access road and/or the construction/rehabilitation works passes through a populated area</p>	<p>[x] Undertake sprinkling of road (including access roads) during dry days, and filling up of potholes during rainy days, especially in residential areas</p> <p>[x]Set up speed limits for vehicles</p>	During construction	Contract	Contractor
6.Landslide/erosion of exposed road sides resulting	[] The road will traverse a mountainous area necessitating deep	<p>[x] Include slope protection works</p> <p>[] Bioengineering</p>	During construction	DED/POW	Contractor

Issues (Potential Impacts)	Assessments	Mitigation Measures	Schedule/Du ration of the Mitigation Measures	Instrument of Implementatio n (POW, Contract, IDP, or O&M Plan)*	Respon- sible Unit
in sedimentation of waterways	<p>cuts on mountainsides</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 checked="" type="checkbox"/> The road passes through a relatively benign terrain, cuts will be minimal</p> <p><input type="checkbox"/> The construction work does not involve additional road cuts</p>	<p>with geomat and cover crop</p> <p><input type="checkbox"/> Fast growing shrub species</p> <p><input type="checkbox"/> Riprap</p> <p><input type="checkbox"/> Gabions</p> <p><input type="checkbox"/> Terracing</p> <p><input type="checkbox"/> Concrete protection wall</p> <p><input type="checkbox"/> No measures needed</p>			
7. Inadequate drainage resulting in flooding or ponding	<p><input checked="" type="checkbox"/> The road will block runoff, resulting in flooding on one side of the road during rainy days</p> <p><input type="checkbox"/> Drainage issues unlikely</p>	<p><input checked="" type="checkbox"/> Installation of cross drains at stations:</p> <ul style="list-style-type: none"> • 0+000;0+920 ;1+020; 1+120 and 1+273 <p><input checked="" type="checkbox"/> Installation of reinforced concrete box culvert at stations:</p> <ul style="list-style-type: none"> • 0+560 and 0+820 	During construction	DED	Contractor
8. Potential increase use of pesticides due to intensification	<p><input checked="" type="checkbox"/> There is an ongoing IPM program of DA in the service area</p> <p><input type="checkbox"/> Farmers in the</p>	<p><input checked="" type="checkbox"/> DA to continue to support IPM program</p> <p><input type="checkbox"/> LGU to Coordinate with DA</p>	After turnover	Capacity Building Plan O&M Plan	LGU

Issues (Potential Impacts)	Assessments	Mitigation Measures	Schedule/Duration of the Mitigation Measures	Instrument of Implementation (POW, Contract, IDP, or O&M Plan)*	Responsible Unit
of cash crop production in the area	service area have not been trained on IPM	on IPM training			
9.Potential acceleration of denudation of the upland/hilly areas due to intensification of crop production	<p><input type="checkbox"/> The proposed road will connect to the market an upland/hilly area where farmers are currently practicing erosive farming techniques. The road could help accelerate the denudation of the upland/hillsides rendering them unproductive in a few years</p> <p><input checked="" type="checkbox"/> The road connects only lowland farms to the market</p>	<p><input type="checkbox"/> DA to coordinate with LGU for the introduction of sustainable upland farming systems in the area</p> <p><input checked="" type="checkbox"/> No measure required</p>	After turnover	O&M Plan; Capacity Building Plan	DA and LGU
10.Potential increased in encroachments of human activities into the nearby public forest	<p><input checked="" type="checkbox"/> The proposed road will improve human access to the nearby public forest</p> <p><input type="checkbox"/> The proposed road does not improve access to a public forest</p>	<p><input checked="" type="checkbox"/> Coordinate with DENR for the enforcement of forestry laws</p> <p><input type="checkbox"/> No measure required</p>	After turnover	O&M Plan; Capacity Building Plan; CLUP	LGU
10.Local employment	<p><input checked="" type="checkbox"/> Construction will provide local employment opportunities</p> <p><input type="checkbox"/> Construction does not provide any local employment opportunities</p>	<p><input checked="" type="checkbox"/> Hiring priority shall be given to qualified local residents; Implement RI Manual on local hiring</p> <p><input type="checkbox"/> No measures required</p>	During construction	Contract	LGU and Contractor

Issues (Potential Impacts)	Assessments	Mitigation Measures	Schedule/Du ration of the Mitigation Measures	Instrument of Implementatio n (POW, Contract, IDP, or O&M Plan)*	Respon- sible Unit
11. Conversion of Land- use/natural habitat due to quarry	<input type="checkbox"/> The proposed quarry site is within a private land and need to convert existing land-use <input checked="" type="checkbox"/> Quarry site is existing and proven as a good source of quarry materials	<input checked="" type="checkbox"/> Quarry materials will be procured to existing quarry sites	During construction	Certification	LGU and Contractor
12.Potential damage to existing road due to hauling of quarry materials	<input checked="" type="checkbox"/> Source of quarry materials is about 24.0 kilometers. Transportation of quarry materials from source to proposed FMR will cause damage to existing FMR	<input checked="" type="checkbox"/> Regular maintenance and repair of existing road	During construction	Contract	LGU and Contractor