

Philippine Rural Development Project-Adaptable Loan Program II  
**ENVIRONMENT MANAGEMENT PLAN**

Name of Road: Rehab./Concreting of Junction –Tomigbong-Larapan Farm to Market Road

Location: San Luis and Kiabo, Malitbog, Bukidnon

Implementing LGU: LGU - Government Unit of Malitbog, Bukidnon

Estimated Number of Beneficiaries: 10,075 beneficiaries

New or Rehab: Rehab./Concreting FMR

Estimated Cost: 19,785,787.11

**A. Site and Design Consideration**

The proposed sub-project namely Rehab./Concreting of Junction –Tomigbong-Larapan Farm to Market Road is one of the priority projects of Barangay San Luis and Kiabo. It is located in Production Forests and A&D areas zoned of two barangays. The said project was incorporated in their Comprehensive Barangay Development Plan, Barangay Develpoment Investment Plan and Barangay Annual investment Plan. And one of among top needs of the populace.

The subproject is an existing road network connecting Sitio Tomigbong and Sitio Larapan and to all weather road of San Luis. The populace had been informed during barangay assemblies. Subproject has no major problem on road right of way. It has less crop and property will be affected/damaged during the rehabilitation. Affected persons were willing to sign quit claim and deed of donations in favor of the implementation of the projects. There's no cultural and historical structure had been affected as per feedback of the indigenous people. The project will be supported by the populace.

**B. Environmental Issues and Mitigation Measures**

Issues (Potential Impact)	Assessment	Mitigation Measure	Instrument of Implementation
1. Temporary increase in sedimentation during construction	<input checked="" type="checkbox"/> Topographic of the alignment necessitate massive earthmoving and cutting clayey or loose topsoil <input type="checkbox"/> Cut materials consist mainly of hard rocks and are unlikely to generate significant sediments	<input checked="" type="checkbox"/> Earthmoving cutting of slopes to be done during dry months <input type="checkbox"/> Proper disposal and compaction of soils <input checked="" type="checkbox"/> No measures required	DED/POW Contract

Issues (Potential Impact)	Assessment	Mitigation Measure	Instrument of Implementation
2. Potential contamination of surface and groundwater with oil/grease	<input checked="" 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 checked="" type="checkbox"/> Proper handling and disposal of waste oil and grease	Contract
3. Potential contamination with human waste	<input checked="" type="checkbox"/> Construction workers would be temporarily housed in a base camp <input checked="" type="checkbox"/> Workers would be mostly locals and are expected to go home to their respective houses after works	<input checked="" type="checkbox"/> Set up adequate latrine/toilet facility at the base camp	Contract
4. Potential disruption of traffic flow	<input checked="" 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 checked="" type="checkbox"/> Keep the road open to traffic flow and minimize disruptions along the access road and/or construction area <input checked="" type="checkbox"/> Provide adequate warning signs and traffic personnel when necessary <input checked="" type="checkbox"/> Undertake regular maintenance measures on the passable portion of the roads <input type="checkbox"/> No measures needed	Contract

Issues (Potential Impact)	Assessment	Mitigation Measure	Instrument of Implementation
5. Potential dust/mud nuisance	<input checked="" type="checkbox"/> Road could become powdery during dry days and muddy during rainy days of the construction period  <input checked="" type="checkbox"/> Access road and/or the rehabilitation works passes through populated area <input type="checkbox"/> Access road and/or the rehabilitation works does not pass through populated area	<input checked="" 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 checked="" type="checkbox"/> Set up speed limits for vehicles, especially within residential areas <input type="checkbox"/> No measures needed	Contract
6. Landslide/erosion of exposed road side resulting in sedimentation of waterways	<input checked="" type="checkbox"/> The road will traverse a mountainous area necessitating deep cuts on mountainsides, <input checked="" type="checkbox"/> The exposed slopes will likely consist of highly erodible loose materials <input type="checkbox"/> The cuts slopes will be hard materials that would resist erosion <input type="checkbox"/> The road passes through a relatively benign terrain, cuts will be minimal <input type="checkbox"/> The rehabilitation works does not involve additional road cuts	<input checked="" type="checkbox"/> Include slope protection works at the following stations: <input type="checkbox"/> Bioengineering with geomat and cover crop <input checked="" type="checkbox"/> Fast growing shrub species <input type="checkbox"/> Riprap <input checked="" type="checkbox"/> Gabions <input type="checkbox"/> Concrete protection wall <input type="checkbox"/> Others _____	DED/POW

Issues (Potential Impact)	Assessment	Mitigation Measure	Instrument of Implementation
7. Inadequate drainage resulting in flooding or ponding	<input checked="" type="checkbox"/> The road will block runoff, resulting in flooding on one side of the road during rainy days <input checked="" type="checkbox"/> Drainage issues unlikely	<input checked="" type="checkbox"/> Installation of cross drain between station ;(refer to attached table on page 6)	DED
8. Potential increase use of pesticide due to intensification of cash crop production in the area	<input type="checkbox"/> There is an ongoing IPM program of DA in the service area <input checked="" type="checkbox"/> Farmers in the service area have not been trained	<input checked="" type="checkbox"/> DA to continue to support IPM program <input checked="" type="checkbox"/> LGU to coordinate with DA on IPM training	Capability Building O &M Plan Environment Code
9. Potential acceleration of denudation of the upland/hilly areas due to intensification of crop production	<input checked="" 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 <input type="checkbox"/> The road connects only lowland farms to the market	<input checked="" type="checkbox"/> DA to coordinate with LGU for the introduction of sustainable upland farming systems in the area <input type="checkbox"/> No measure required	O & M Plan, Capability Building
10. Potential increased in encroachments of human activities into the nearby public forest	<input checked="" type="checkbox"/> The proposed road will improve human access to the nearby public forest, resulting in increase slash and burn cultivation, illegal logging and poaching <input type="checkbox"/> The proposed road does not improve access to a public forest	<input checked="" type="checkbox"/> Coordinate with DENR for the enactment of ordinance deputizing the local community to enforce forestry laws <input type="checkbox"/> No measure required	Environmental Code