

Philippine Rural Development Project

Environmental Management Plan Template for Rural/Farm-to-Market Roads

[Note: This template is designed to rapidly identify and assess the environmental issues and associated mitigation/management measures in Rural and Farm-to-Market Roads funded under MRDP2. This template consolidates all safeguards aspect of Communal Irrigation Subproject as found in various project documents. This document replaces the EMP checklist in Annex 38 of the RI Manual]

Name of Road: Construction/Concreting of Sangay- Mahayahay Farm to Market Road

Location: Barangay Sangay, Mahayahay and Crossing, Kitcharao, Agusan del Norte

Implementing LGU: Municipality of Kitcharao

Estimated number of beneficiaries: 1,260 HH

New or Rehab: New Construction

Estimated Total Cost: Ph 14,787,000.00

A. Site and Design Consideration

[Do not proceed with the Subproject preparation including this ESMP unless all items below are confirmed true.]

1. The Road does not encroach into or traverse any declared protected area of natural habitat (c.f. Loan Agreement: MRDP2/PRDP will not fund subprojects located inside a declared Protected Area);
2. The subproject will not displace, disfigure or render inoperable/inaccessible any monument or physical structure of known cultural and historical significance.

B. Environmental Issues and Mitigation Measures *[The following are issues frequently associated with Farm to Market Roads. Issues include alleged/perceived impacts, potential impacts, health and safety and environmental risks. Entries in the "Assessment" column should describe or provide qualifications regarding the significance of the issues. Issues that are deemed critical or significant should have a corresponding entry in the "Mitigation" column. Entries in the "Instrument" column should indicate how and where in the measures will be implemented in the Subproject. Please feel free to add, delete or modify any of the items in the template. In preparing the EMP below refer to the Environmental and Social Assessment Section of the FS for specific safeguards issues and assessments]*

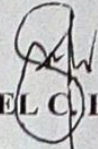
Issue (Potential Impact)	Assessment (Sample assessments)	Mitigation Measure	Instrument of Implementation (POW, Contract, IDP, or O&M Plan)*
1. Temporary increase in sedimentation during construction	<input type="checkbox"/> Topography of the road alignment necessitate massive earthmoving and cutting of clayey or loose top soils <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	DED/POW; Contract
2. 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	Contract
3. 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	Contract
4. 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"/> Keep the road open to traffic flow and minimize disruptions along the access road and/or construction area; Provide adequate warning signs and	Contract

Issue (Potential Impact)	Assessment (Sample assessments)	Mitigation Measure	Instrument of Implementation (POW, Contract, IDP, or O&M Plan)*
	<input type="checkbox"/> [/] The construction will not affect daily movement of residents and farmers	traffic personnel when necessary; <input type="checkbox"/> [] Undertake regular maintenance measures on the passable portions of the roads <input type="checkbox"/> [/] No measures needed	
5. Potential dust/mud nuisance during construction	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	Contract
6. Landslide/ erosion of exposed road sides resulting in sedimentation of waterways	<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)... <input type="checkbox"/> [] The exposed slopes will likely consist of	<input type="checkbox"/> [] Include slope protection works at the following stations: _____ _____ ...etc..	DED/POW Or (if budget does not permit) LGU Commitment Letter


Issue (Potential Impact)	Assessment (Sample assessments)	Mitigation Measure	Instrument of Implementation (POW, Contract, IDP, or O&M Plan)*
	<p>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 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>(Specify the type/s of slope protection to be applied at each section- Consult with the Municipal Engineer:</p> <p><input type="checkbox"/> Bioengineering 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"/> Others _____)</p>	
7. Inadequate drainage resulting in flooding or ponding	<p><input 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 type="checkbox"/> Installation of cross drain between station with irrigation canal and other potential drainage installation.</p>	DED
8. Potential increase use of pesticides due to intensification of cash crop production in the area	<p><input type="checkbox"/> There is an ongoing IPM program of DA in the service area</p> <p><input type="checkbox"/> Farmers in the service area have not</p>	<p><input type="checkbox"/> DA to continue to support IPM program</p> <p><input type="checkbox"/> LGU to Coordinate with DA on IPM training</p>	<p>Capacity Building Plan</p> <p>O&M Plan;</p> <p>Capacity Building Plan</p>

Issue (Potential Impact)	Assessment (Sample assessments)	Mitigation Measure	Instrument of Implementation (POW, Contract, IDP, or O&M Plan)*
	been trained on IPM		
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 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 type="checkbox"/> No measure required</p>	O&M Plan; Capacity Building Plan
10. Potential increased in encroachments of human activities into the nearby public forest	<p><input 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.</p> <p><input type="checkbox"/> The proposed road does not improve access to a public forest</p>	<p><input type="checkbox"/> Coordinate with DENR for the enactment of ordinance deputizing the local community to enforce forestry laws</p> <p><input type="checkbox"/> No measure required</p>	O&M Plan; Capacity Building Plan
10. Local employment	<input type="checkbox"/> Construction will provide local employment opportunities	<input type="checkbox"/> Hiring priority shall be given to qualified local residents; Implement RI Manual on local hiring	Contract
	<input type="checkbox"/> Construction does not provide any local	<input type="checkbox"/> No measures required	


Issue (Potential Impact)	Assessment (Sample assessments)	Mitigation Measure	Instrument of Implementation (POW, Contract, IDP, or O&M Plan)*
	employment opportunities		
<others issues>			

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Adopted by MPMIU


ALEX E. ARENA
MPMIU Head

Noted by the local community:


HON. BARTOLOME R. ABEJERO
Barangay Captain