



Republic of the Philippines
DEPARTMENT OF AGRICULTURE
PHILIPPINE RURAL DEVELOPMENT PROGRAM
Province of Agusan del Sur
MUNICIPALITY OF ESPERANZA



Environmental Management Plan

Concreting of Lumbia - Mabao Farm to Market Road

Project ID No. IB-RO13-ADS-02-ESP-01-13

Barangay Dacutan, Esperanza, Agusan del Sur

Philippine Rural Development Project (PRDP)
Environmental Management Plan Template for Rural/Farm-to-Market Roads

Name of Road: Concreting of Lumbia - Mabao FMR
Location: Brgy. Dacutan, Esperanza, Agusan Del Sur
Implementing LGU: Local Government of Esperanza
Estimated number of beneficiaries: 4,506
New or Rehab: New Construction
Estimated Total Cost: P 27,645,392.33

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
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]*

Environmental Management Plan

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 checked="" type="checkbox"/> Topography of the road alignment necessitate massive earthmoving and cutting of clayey or loose topsoil. <input type="checkbox"/> Cut materials will 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 checked="" type="checkbox"/> Proper disposal and compaction of spoils <input type="checkbox"/> No measures required	DED/POW; Contract

Issue (Potential Impact)	Assessment (Sample assessments)	Mitigation Measure	Instrument of Implementation (POW, Contract, IDP, or O&M Plan)*
2. Potential contamination of surface and groundwater with oil/grease	<ul style="list-style-type: none"> ✓ Waste oil and grease from equipment could contaminate surface water [] There will be no or insignificant amount of waste oil/grease 	<ul style="list-style-type: none"> ✓ Proper handling and disposal of waste oil and grease 	Contract
3. Potential contamination with human waste	<ul style="list-style-type: none"> ✓ Construction workers would be temporarily housed in a base camp ✓ [] Workers would be mostly locals and are expected to go home to their respective houses after works 	<ul style="list-style-type: none"> ✓ Set up adequate latrine/toilet facility at the base camp 	Agreement between LGU & Contractor.
4. Potential disruption of traffic flow	<ul style="list-style-type: none"> ✓ [] 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 [] The construction will not affect daily movement of residents and farmers 	<ul style="list-style-type: none"> ✓ [] Keep the road open to traffic flow and minimize disruptions along the access road and/or construction area; Provide adequate warning signs and traffic personnel when necessary; ✓ [] Undertake regular maintenance measures on the passable portions of the roads [] No measures needed 	Contract
5. Potential dust/mud nuisance during construction	<ul style="list-style-type: none"> ✓ Roads could become powdery during dry days and muddy during rainy days of the construction period 	<ul style="list-style-type: none"> ✓ Undertake sprinkling of road (including access roads) during dry days, and filling up of potholes during rainy days, especially in residential areas 	Contract

Issue (Potential Impact)	Assessment (Sample assessments)	Mitigation Measure	Instrument of Implementation (POW, Contract, IDP, or O&M Plan)*
	<input checked="" 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 checked="" type="checkbox"/> Set up speed limits for vehicles, especially within residential areas <input type="checkbox"/> No measures needed	
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 highly erodible loose materials <input type="checkbox"/> The cut slopes will be hard materials that would resist erosion <input checked="" type="checkbox"/> <input type="checkbox"/> The road passes through a relatively benign terrain, cuts will be minimal <input type="checkbox"/> The rehabilitation work does not involve additional road cuts	<input checked="" type="checkbox"/> Include slope protection works at the following stations: 0+320-0+360,0+440,0+500-0+560,0+800,1+060,1+300-1+340,1+480-1+540,1+620-1+700,1+780-1+860,1+980-2+040,2+200-2+280,2+720-2+880. _____ ..etc.. (Specify the type/s of slope protection to be applied at each section- Consult with the Municipal Engineer: <input type="checkbox"/> Bioengineering with geomat and cover crop <input type="checkbox"/> Fast growing shrub species <input checked="" type="checkbox"/> <input type="checkbox"/> Riprap <input type="checkbox"/> Gabions <input type="checkbox"/> Terracing <input type="checkbox"/> Concrete protection wall <input type="checkbox"/> Others _____)	DED/POW Or (if budget does not permit) LGU Commitment Letter
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"/> Installation of cross drain between station 0+340m,0+520m,1+060,1+300 1+800,2+000,2+200,2+270	DED

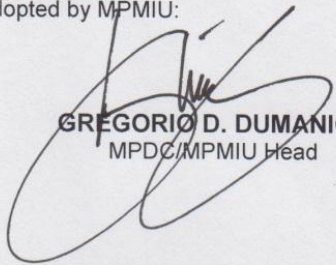
Issue (Potential Impact)	Assessment (Sample assessments)	Mitigation Measure	Instrument of Implementation (POW, Contract, IDP, or O&M Plan)*
	<input type="checkbox"/> Drainage issues unlikely		
8. Potential increase use of pesticides due to intensification of cash crop production in the area	<input type="checkbox"/> There is an ongoing IPM program of DA in the service area <input type="checkbox"/> Farmers in the service area have not been trained on IPM	<input type="checkbox"/> DA to continue to support IPM program <input type="checkbox"/> LGU to Coordinate with DA on IPM training	Capacity Building Plan O&M Plan; Capacity Building Plan
9. Potential acceleration of denudation of the upland/hilly areas due to intensification of crop production	<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. <input checked="" type="checkbox"/> The road connects only lowland farms to the market	<input type="checkbox"/> DA to coordinate with LGU for the introduction of sustainable upland farming systems in the area <input checked="" type="checkbox"/> No measure required	O&M Plan; Capacity Building Plan
10. Potential increased in encroachments of human activities into the nearby public forest	<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. <input checked="" type="checkbox"/> The proposed road does not improve access to a public forest	<input type="checkbox"/> Coordinate with DENR for the enactment of ordinance deputizing the local community to enforce forestry laws <input checked="" type="checkbox"/> No measure required	O&M Plan; Capacity Building Plan
10. Local employment	<input checked="" type="checkbox"/> Construction will provide local employment opportunities	<input checked="" 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 employment opportunities	<input type="checkbox"/> No measures required	

Prepared by:



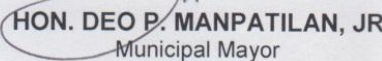
GLENN RYAN P. RUBILLOS
MPMIU Staff

Adopted by MPMIU:



GREGORIO D. DUMANIG
MPDC/MPMIU Head

Noted by:



HON. DEO P. MANPATILAN, JR.
Municipal Mayor