

ANNEX E-1

Department of Agriculture Philippine Rural Development Project

TEMPLATE FOR RURAL/FARM-TO-MARKET ROADS

Name of Road:	Concreting of Dapacan Bajo-Bunawan-DBAN Farm-to-Market Road with Spillway
Location:	Barangay Dapacan Bajo, Calamba, Misamis Occidental
Implementing LGU:	LGU – Calamba, Misamis Occidental
Estimated number of beneficiaries:	1,283 households
New or Rehab:	Rehabilitation
Estimated Total Cost:	PhP 37,009,173.68

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: 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 ESMP 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	Schedule/ Duration of the Mitigation Measures	Instrument of Implementation (POW, Contract, IDP, or O&M Plan)*	Responsible Unit
1. Presence of IP/ICC in the influence area	<p><input type="checkbox"/> There is no IP/ICC in the area as per LGU records and on site validation and will not traverse an ancestral domain.</p> <p><input type="checkbox"/> The site is inside the ancestral domain or will traverse by the project.</p> <p><input type="checkbox"/> The road is not inside nor traverses any ancestral domain. However, there are IP/ICC in the area.</p>	<p><input type="checkbox"/> FPIC</p> <p><input type="checkbox"/> Certification from the Tribal Chieftain expressing support to the project</p> <p><input type="checkbox"/> Evidence of broad-based consultation</p> <p><input type="checkbox"/> IP/ICC are minority of the beneficiaries. An IP/ICC development plan has been established as seen in the Annex H-1. Part of the measures in supporting IP/ICC is to provide them with interventions as stated in Annex H-1.</p> <p><input type="checkbox"/> No measure required</p>	Prior to implementation	Consultation Meeting, Documentation	LGU

<p>2. Cutting of Trees</p>	<p><input type="checkbox"/> The road construction will necessitate cutting of trees:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Coconut <input type="checkbox"/> Fruit Trees <input type="checkbox"/> Forest Species <p><input type="checkbox"/> The trees to be cut are privately owned</p> <p><input type="checkbox"/> The road construction will not necessitate the cutting of trees</p>	<p><input type="checkbox"/> Secure cutting permit from:</p> <ul style="list-style-type: none"> <input type="checkbox"/> PCA <input type="checkbox"/> DENR-CENRO <p><input type="checkbox"/> Secure permission from the owner to cut the trees</p> <p><input type="checkbox"/> No measure required</p>	<p>Prior to implementation</p>	<p>Tree Cutting Permit/s</p> <p>MOA with the owner/s (if he/she/they will require compensation)</p> <p>Waiver of Rights/Quit Claim (if the trees will be donated as reflected in Form 1)</p>	<p>LGU</p>
<p>3. Demolition and Reconstruction of affected structures</p>	<p><input type="checkbox"/> Permanent structures (e.g. concrete structures) will have to be removed/demolished during road construction</p> <p><input type="checkbox"/> Temporary structures will have to be removed/demolished during road construction</p> <p><input type="checkbox"/> The road construction will not affect any permanent or temporary structures</p>	<p><input type="checkbox"/> Compensate the owners of the structures that will be affected</p> <p><input type="checkbox"/> Assist the owners of the structure in relocating/rehabilitating the affected structures</p> <p><input type="checkbox"/> No measure required</p>	<p>Prior to implementation</p>	<p>MOA with the owner/s (if he/she/they will require compensation/assistance)</p> <p>Waiver of Rights/Quit Claim (if the owner/s will not require compensation as reflected in Form 1)</p>	<p>LGU</p>

4. Conversion of Land – use/natural habitat due to quarry	[/] Quarry Site is existing and proven as a good source of materials	[/] Quarry materials will be procured from existing site/s: <u>Bunawan River</u> which is/are in a distance of <u>1km</u> from the subproject site.	During implementation	Certificate	
5. Potential damage to existing road due to hauling of quarry materials	[/] Sources of Quarry will cause <u>minimal/minor</u> damage to existing roads [] Sources of Quarry will not cause damage to existing roads	[/] Regular maintenance and repair of existing road by the contractor [] No measures required	During implementation	Contract	Contractor
6. Temporary increase in sedimentation during construction	[/] Topography of the road alignment necessitate massive earthmoving and cutting of clayey or loose topsoil [] Cut materials will consist mainly of hard rocks and are unlikely to generate significant sediments	[/] Earthmoving/ cutting of slopes to be done during dry months [/] Proper disposal and compaction of spoils [] No measures required	During implementation	DED/POW ; Contract	Contractor
7. Potential contamination of surface and ground water with	[/] Waste oil and grease from equipment could contaminate surface water [/] There will be no or insignificant amount of waste oil/grease	[/] Proper handling and disposal of waste oil and grease	During implementation	Contract	Contractor

oil/grease					
8. 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	During implementation	Contract	Contractor
9. Potential dust/mud nuisance during construction	<input type="checkbox"/> 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 heavy 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	During implementation	Contract	Contractor
10. Inadequate drainage resulting in flooding or ponding	<input type="checkbox"/> The road will block runoff, resulting in flooding on one side of the road during rainy days. <input type="checkbox"/> Drainage issues unlikely	<input type="checkbox"/> Installation of cross drain/s at the following stations: _Spillway_____ _____ _____ _____	During implementation	DED	Contractor
11. Landslide/erosion of exposed road	<input type="checkbox"/> The road will traverse a mountainous area necessitating deep cuts on mountainsides, particularly between station ___ and ___,	<input type="checkbox"/> Include slope protection works at the following stations: _____	During implementation	DED/POW Or (if budget does not permit)	Contractor

<p>sides resulting in sedimentation of waterways</p>	<p>etc (check DED for deep cuts)...</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 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>_____</p> <p>..etc..</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>		<p>LGU Commitment Letter</p>	
<p>12. Presence of dangerous road sections due to road topography and elevation</p>	<p><input type="checkbox"/> Poor horizontal and vertical road alignment</p> <p><input type="checkbox"/> High road embankments pose hazard to road users</p>	<p><input type="checkbox"/> Provision of Guard Rails/Concrete Railings at the following stations</p> <p>_____</p> <p>_____</p> <p><input type="checkbox"/> Planting of hedgerows at the following stations</p> <p>_____</p> <p>_____</p> <p><input type="checkbox"/> Provision pavement markings to critical curves</p>	<p>During project implementation</p>	<p>POW</p>	<p>Contractor</p>

		<input type="checkbox"/> Installation of road signs at the following stations _____ _____ <input type="checkbox"/> Set speed limit			
13. Possible discovery of artefacts, bones, and other objects of interests during construction of the road	<input type="checkbox"/> Discovery of artifacts bones and other objects of interests within 10 meter radius <input type="checkbox"/> Discovery of artifacts bones and other objects of interests outside 10 meter radius	<input type="checkbox"/> Suspension of the activities and immediately report to the PLGU and RPCO SES Focal Person	During implementation	Contract	Contractor /LGU
14. 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"/> The construction will not affect daily movement of residents and farmers	<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 traffic personnel when necessary; <input type="checkbox"/> Undertake regular maintenance measures on the passable	During implementation	Contract	Contractor

		portions of the roads <input type="checkbox"/> No measures needed			
15. Local employment	<input type="checkbox"/> Construction will provide local employment opportunities that will provide a standard salary wage based on RTWPB approved wage rates. <input type="checkbox"/> Construction does not provide any local employment opportunities	<input type="checkbox"/> Hiring priority shall be given to qualified local residents <input type="checkbox"/> No measures required	During implementation	Contract	Contractor
16. Grievance during construction	<input type="checkbox"/> Unclear policy on project implementation; there is no acceptable grievance redress mechanism in place. <input type="checkbox"/> The project has already established an acceptable policy on addressing grievances <input type="checkbox"/> Access to the Grievance Redress Mechanism (GRM posters and Grievance Form Drop Boxes) is available in strategic locations at all levels of project implementation: <ul style="list-style-type: none"> <input checked="" type="checkbox"/> Project Site <input checked="" type="checkbox"/> Barangay Hall/s <input checked="" type="checkbox"/> Municipal Hall/s Provincial Hall	<input type="checkbox"/> Establish an acceptable policy on project implementation and grievance redress mechanism <input type="checkbox"/> Assign-a Grievance Focal/Point Person <input type="checkbox"/> No further measure required	During implementation	O&M EO creating the PPMIU	LGU and PSO /RPCO Grievance Point Person/Grievance Officer
Batching Plant					
17. Batching Plant Requirement	<input type="checkbox"/> The road construction requires the setting up of ___ batching plant/s <input type="checkbox"/> The batching plant/s will be mobile and operated for less than 1 year	<input type="checkbox"/> Contractor to comply with the succeeding requirements as applicable to the setting up/ construction of batching plant/s	During implementation	Contract	Contractor

	<input type="checkbox"/> There is an existing batching plant at a distance of _____ from the project site.				
18. Land acquisition for the batching plant	<input type="checkbox"/> The proposed site for the Batching plant is owned by _____.	<input type="checkbox"/> Project proponent (PG)/ Contractor to lease the site of the Batching Plant.	Prior to start of construction of the Batch Plant.	Contract of Lease	Contractor /LGU
19. Conditions on the Plant Site	<input type="checkbox"/> The Batching Plant site/s is/are located in a hazardous area. <input type="checkbox"/> The Batching Plant is not situated in a hazardous area.	<input type="checkbox"/> The proponent LGU to determine suitable sites for setting up of the Batching Plant <input type="checkbox"/> The site should not be in a flood prone area. Consider the extreme hydrologic event of flood having a 100 year recurrence interval in site selection. <input type="checkbox"/> The site is away from critical slopes and erodible areas.	In the planning stage	Contract	LGU /Contractor
20. Disturbance to wildlife due to vegetation clearing	<input type="checkbox"/> Setting up of the Batching Plant will require clearing of vegetation and/or cutting of trees <input type="checkbox"/> No. of trees to be cleared _____ Ave. girth: _____	<input type="checkbox"/> Compliance with conditions of DENR/LGU SLUP, Tree Cutting Permit, ROW, PCA Permit	Prior to start of construction	Contract	LGU /Contractor

	<p><input type="checkbox"/> The setting up of the Batching Plant will not necessitate clearing of vegetation and/or cutting of trees</p>	<p><input type="checkbox"/> Limit land clearing as much as possible</p> <p><input type="checkbox"/> Provide temporary fencing to vegetation that will be retained</p> <p><input type="checkbox"/> Promote restoration of damaged or destroyed vegetation where possible (e.g., tree planting).</p> <p><input type="checkbox"/> Look for available open spaces within the proximity of the site.</p>			
21. Temporary increase of solid waste during construction of Batching Plant	<p><input type="checkbox"/> There will be significant volume of waste generated during clearing and construction</p>	<p><input type="checkbox"/> Proper handling and disposal of construction waste</p>	During construction period	Contract	Contractor
22. Potential heavy equipment hazard; i.e. dump trucks, concrete mixers, pay	<p><input type="checkbox"/> Batching Plant is situated in populated residential area/s.</p> <p><input type="checkbox"/> Batching Plant is not located in populated/residential area.</p> <p><input type="checkbox"/> The batching plant is within forest/plantation area.</p>	<p><input type="checkbox"/> Proper handling and maintenance of heavy equipments during transport and unloading of materials.</p> <p><input type="checkbox"/> Properly locate</p>	During Plant Operation	O&M	Contractor

<p>loader etc. during transport of aggregates and fresh concrete</p>	<p><input type="checkbox"/> The plant is not within a forest/plantation area.</p>	<p>equipment yards in the plant facility.</p> <p><input type="checkbox"/> Regular maintenance (water sprinkling) and repair of the access roads to control suspended particulates.</p> <p><input type="checkbox"/> Access and exit routes for heavy equipment/dump trucks should be planned to minimize impacts on the environment and amenities of the locality.</p> <p><input type="checkbox"/> Proper handling and disposal of excess oil, lubricants, paints etc.</p>			
<p>23. Potential hazard and risk to the community/plantation during Batch Plant operation.</p>	<p><input type="checkbox"/> Batching Plant site poses risk to the community or plantation due suspended particulates, alkaline wastewater and noise</p>	<p><input type="checkbox"/> No construction during night time.</p> <p><input type="checkbox"/> Provide/construct peripheral fence and trees buffers to prevent the spread of</p>	<p>During Plant Operation</p>	<p>O&M</p>	<p>Contractor</p>

		<p>suspended particulates.</p> <p><input type="checkbox"/> Practice proper housekeeping</p> <p><input type="checkbox"/> set up a temporary stilling pond for wastewater.</p>			
24. Occupational health hazards to workers	<p><input type="checkbox"/> Batch Plant and construction workers are exposed to unsafe and hazardous condition</p> <p><input type="checkbox"/> Batch Plant activities are relatively minor</p>	<p><input type="checkbox"/> Require all workers to strictly observe safety standards and personal protective equipment.</p> <p><input type="checkbox"/> Put up safety signs within the Batch Plant</p> <p><input type="checkbox"/> Provide potable water & sanitary facilities for workers within the facility.</p>	During Batch Plant Operation	O&M	Contractor
25. Accumulation of excess materials during operation	<input type="checkbox"/> The Plant will generate significant volume of excess raw materials.	<p><input type="checkbox"/> Proper handling and disposal of excess materials</p> <p><input type="checkbox"/> Provision of covered dump sites for excess materials.</p>	Batching Plant operation period	O&M	Contractor
26. Increased siltation and water quality degradation	<p>Specify nearest/receiving water body: <u>Bunawan River</u></p> <p>Distance to nearest/ receiving water body: 2km</p>	<p><input type="checkbox"/> Strictly observe proper waste water handling and disposal</p> <p><input type="checkbox"/> Set up temporary</p>	Batching Plant operation period	O&M	Contractor

<p>tion due to project activities</p>	<p>If nearest/ receiving water body is fresh water, specify <u>Bunawan River</u></p> <p>If nearest/ receiving water body is coastal or marine water, specify classification_ <u> </u> River</p> <p>Current Water Use:</p> <p><input type="checkbox"/> Fishery</p> <p><input type="checkbox"/> Tourist Zone / Park</p> <p><input type="checkbox"/> Recreational</p> <p><input type="checkbox"/> Industrial</p> <p><input type="checkbox"/> Agricultural</p> <p>Distance of batching plant to the nearest well used: _____ km</p>	<p>stilling ponds to minimize downstream siltation in creeks and rivers</p> <p><input type="checkbox"/> Recycle wastewater</p> <p><input type="checkbox"/> For highly alkaline wastewater, apply pH control before wastewater re-use or disposal</p> <p><input type="checkbox"/> Others (Pls. specify): _____</p>			
<p>27. Dust Emissions</p>	<p>[] Emission during operation of batching plant will affect the community and agri land and forest</p> <p>[/] Emission during operation of batching plant will not affect the community and agri land and forest</p>	<p>[] Select a site out from high prevailing winds. This should be considered during the planning period to ensure that bunkers, conveyor's position are in the leeward direction to minimize the effects of winds.</p> <p>[/] Provide natural or artificial barriers – such as trees, fences, and landforms, to help control the emission of dust</p>	<p>Project operation period</p>	<p>O&M</p>	<p>LGU/ Contractor</p>


		<p>from the batching plant to the sensitive land uses.</p> <p><input type="checkbox"/> Maintain a minimum 100 meters buffer area between batching plants and sensitive land uses. (Sensitive land uses are residential area and zones, hospitals, schools, caravan parks, and the likes)</p>			
28. 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>	After project completion	O&M Plan; Capacity Building Plan	LGU
29. Potential increase in encroachments of human activities	<p><input type="checkbox"/> The proposed road will improve human access to the nearby public forest, resulting in increased slash and burn cultivation, illegal logging and poaching.</p>	<p><input type="checkbox"/> Coordinate with DENR for the enactment of ordinance deputizing the local community to enforce forestry laws</p>	After project completion	O&M Plan; Capacity Building Plan	LGU

s into the nearby public forest	<input checked="" type="checkbox"/> The proposed road does not improve access to a public forest	<input type="checkbox"/> No measure required			
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<p>30. Potential increase use of pesticides due to intensification of cash crop production in the area</p>	<p><input type="checkbox"/> There is an ongoing IPM program of DA in the service area</p> <p><input checked="" type="checkbox"/> Farmers in the service area have not been conducted with formal classes on IPM</p>	<p><input type="checkbox"/> DA to continue to support IPM program</p> <p><input type="checkbox"/> DA to intensify IPM Program in the area thru:</p> <p>_____</p> <p>_____</p> <p>_____</p> <p><input type="checkbox"/> LGU to Coordinate with DA on IPM training</p>	<p>During and after project completion</p>	<p>Capacity Building Plan O&M Plan; Capacity Building Plan</p>	<p>LGU</p>
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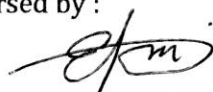
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Barangay Captain

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