



Environment Monitoring Report

Project Number: 46009
July 2014

Cambodia: Flood Damage Emergency Reconstruction Project

Semi- Annual Environment Monitoring Report (July-Dec. 2013)

Prepared by Consultant of Project Coordination and Monitoring Unit

For the Kingdom of Cambodia
Inter-Ministerial Resettlement Committee
Ministry of Economy and Finance

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Asian Development Bank



Ministry of Economy and Finance
Flood Damage Emergency Reconstruction Project (FDERP)
ADB Loan No. 2852-CAM (SF) and Grant No. 0285-CAM (EF)

Semi-Annual Environmental Monitoring Report

July-Dec 2013



January 2014

Prepared by PCMU Consultants.

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Caption for front cover:

Photo of MPWT bridge construction in Bavel district, Battambang province under MPWT-CW8	Photo of Box Culvert Construction for MRD road in Siem Reap under MRD-CW6-Lot 2	Photo of watergate construction for Prek Toch Preak Thom irrigation system in Kampong Thom, MoWRAM-CW13
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I. Introduction

The Flood Damage Emergency Reconstruction Project (FDERP) will restore critical public infrastructure assets that were affected by 2011 flood in order to restore livelihood, access in project provinces. The Project focused on (i) roads (national, provincial, and rural), including bridges and culverts; (ii) irrigation facilities; and (iii) strengthen the Government's flood management capacity. The reconstruction of damaged infrastructures concentrates in Prey Veng, Kampong Cham, Kampong Thom, Siem Reap, Banteay Mean Chey, and Battambang provinces. The Ministry of Economy and Finance (MEF) is the executing agency (EA) of the project. Ministry of Public Works and Transport (MPWT); Ministry of Rural Development (MRD); and Ministry of Water Resources and Meteorology (MOWRAM) are the implementing agencies (IAs). As a framework for structuring the Project activities, the restoration of flood damaged infrastructure has been divided into three stages as follows:

- (i) Stage 1 - Immediate repairs to reestablish use of the infrastructure on a temporary basis and restore minimum functioning levels. The most urgent work has already been implemented by the RGC using its own resources.
- (ii) Stage 2 - Fast track repairs where it is necessary to substantially repair the damage before the next wet season to secure the existing (undamaged) works and thus avoid more extensive damage in the coming wet season.
- (iii) Stage 3 - Remaining flood damage restoration to complete the remaining damage repairs, preferably within the following two dry season construction periods.

As the scope of emergency reconstruction works is to restore the damaged infrastructures to the pre-flood level conditions, only minor environmental and social impacts were encountered. So far, the reconstruction of 3 bridges and 2-km of ring road on National Road (NR) No.11 under stage 2 and reconstruction of three more bridges on NR 11, six bridges as well as four box culverts and reconstruction of 8.15 km DBST road on Provincial Road No. 270 in Kampong Cham province and reconstruction of 34.5-km DBST road in Battambang and Banteay Mean Chey provinces were implemented by MPWT, the emergency repair of 443.9-km of rural road under stage 2 and stage 3 subprojects were implemented by MRD and the emergency repair of 20 irrigation schemes under stage 2 and stage 3 subprojects were implemented by MoWRAM. All of the implemented subprojects are in category B for Environment. Hence, this monitoring report, which is the semi-annual monitoring report on Environment, will focus on monitoring results of the EMPs during civil works construction.

II. Subprojects Description and Implementation Progress

The project is aimed at restoring livelihoods and access in the project provinces. The project had three main components:

- (1).Component 1: National and Provincial Road Restoration
- (2). Component 2: Rural Roads Restoration
- (3). Component 3: Irrigation and Flood Control

2.1 Component 1: National and Provincial Road Restoration

The project have been reconstructed flood damaged national and provincial roads in 4 provinces. In Prey Veng, 2 km of a ring road, which also serves as a flood protection dyke for Prey Veng City, have been strengthened, and 5 bridges along National Road 11 which were severely weakened by the floods have been replaced and improved. In Kampong Cham, Banteay Mean Chey and Battambang provinces, 72 km of provincial roads have been repaired and upgraded, and seven structures and five bridges replaced. From the start of the project till the end of 2013, the status of each subproject is summarized in the following table:

MPWT- Status of Subprojects implementation

CONTRACT No.	CONTRACT DATA	REMARKS
MPWT-CW1 Stage 2 Prey Veng	Contract Value:\$3,383,059.32 Variation 1:\$328,783.95 Start date: 22 May 2012 Completion date: 22 Jan 2013 Time Extension1: 22 Mar 2013 Time Extension2: 31 Jul 2013	<ul style="list-style-type: none"> • Works of the original contracts were completed. • The additional works for Roang Damrei dyke reconstruction started in May 2013 and fully completed on 20 September 2013 • EMP was well implemented during construction
MPWT-CW2 Stage 2 Prey Veng	Contract Value:\$1,992,174.25 Start date: June 2012 Completion date: 18 Mar 2013 Time Extension: No	<ul style="list-style-type: none"> • All civil works were completed and Completion Certificate was issued in March 2013. • EMP was well implemented during construction
MPWT-CW3 Stage 2 Kampong Cham	Contract Value:\$1,328,276.54 Start date: June 2012 Completion date:18 Mar 2013 Time Extension: No	<ul style="list-style-type: none"> • All civil works were completed and Completion Certificate was issued in March 2013. • EMP was well implemented during construction
MPWT-CW4 Stage 3 Prey Veng	Contract Value:\$806,898.27 Start date: 19 Dec 2012 Completion date:31 Oct 2013 Time Extension: Not required	<ul style="list-style-type: none"> • Completed in September 2013. • EMP was well implemented during construction
MPWT-CW5 Stage 3 Prey Veng	Contract Value: \$1,325,663.24 Start date:11 Jan 2013 Completion date:11 Nov 2013 Time Extension: needed	<ul style="list-style-type: none"> • Completed in December 2013. • EMP was well implemented during construction
MPWT-CW6a Stage 3 Kampong Cham	Contract Value:\$1,268,752.17 Variation: Not yet known Start date: 19 Dec 2012 Completion date:03 Dec 2013 Time Extension: 12 Apr 2014	<ul style="list-style-type: none"> • The progress is behind the schedule, only 90% against 100%. • EMP is being implemented during construction
MPWT-CW6b Stage 3 Kampong Cham	Contract Value:\$ 2,927,997.55 Variation: needed Start date:29 Apr 2013 Completion date:17 Feb 2014 Time Extension: 31 July 2014	<ul style="list-style-type: none"> • The contract is in good progress with 41% completed works. • EMP is being implemented during construction
MPWT-CW6c Stage 3 Kampong Cham	Contract Value:\$1,522,735.70 Variation: Needed Start date:29 Apr 2013 Completion date:05 Feb 2014 Time Extension: 15 May 2014	<ul style="list-style-type: none"> • The front slab of box culvert at PK 9+478 coincides with the existing fence of local villager. The box culvert was redesigned to avoid such impact. • The progress was 76%. • EMP is being implemented during construction

CONTRACT No.	CONTRACT DATA	REMARKS
MPWT-CW8 Stage 3 BB and BMC	Contract Value:\$ 8,795,645.55 Variation: Not yet known Start date:25 October 2013 Completion date:16 June 2015 Time Extension: not required yet	<ul style="list-style-type: none"> • The contract is in good progress with 12% completed works. • EMP is being implemented during construction
MPWT-CW7 Kampong Cham	Contract Value:\$ 1,431,562.20 Variation: Not yet known Start date:23 December 2013 Completion date:19 Oct 2014 Time Extension: not required yet	<ul style="list-style-type: none"> • The contract is in good progress with 8% completed works. • EMP is being implemented during construction

2.2 Component 2: Rural roads restoration

The Project has reconstructed about 443.9-km of flood damaged rural roads in five provinces of Prey Veng, Kampong Cham, Kampong Thom, Siem Reap and Banteay Mean Chey. Of the 443.9-km rural roads, 275.2 km rural roads in five provinces have completed under stage 2. The restoration works of the remaining roads under stage 3 are being carried out. The table below shows the status of stage 3 subproject implementation:

MRD- Status of Subprojects implementation

CONTRACT No.	CONTRACT DATA	KEY ISSUES/REMARKS
MRD-CW1 Stage2 Prey Veng	Contract Value: \$1,260,437.64 Final Contract: \$997,637.02 Completion date: 23 Dec 2012 Actual Completion: 21 Dec 2012 End of Defects Liability: 21 Jun 13	• Defects Liability Certificate was issued.
MRD-CW2 Stage2 Kampong Cham	Contract Value: \$2,094,309.21 Final Contract: \$1,825,950.86 Completion date: 23 Dec 2012 Actual Completion: 23 Dec 2012 End of Defects Liability: 23 Jun 13	• Defects Liability Certificate was issued.
MRD-CW3 Stage 2 Siem Reap	Contract Value: \$1,297,196.78 Final Contract: \$1,061,470.35 Completion date: 23 Dec 2012 Actual Completion: 21 Dec 2012 End of Defects Liability: 21 Jun 13	• Defects Liability Certificate was issued.
MRD-CW4 Stage 2 Banteay Mean Chey	Contract Value: \$2,041,088.89 Final Contract: \$1,947,233.55 Start date: 16 July 2012 Completion date: 16 Jan 2013 Actual Completion: 20 Mar 2013 Defects Liability: 6 months	• Defects Liability Certificate was issued.
MRD-CW8 Stage 2 Kampong Thom	Contract Value: \$648,259.88 Final Contract: \$588,885.31 Completion date: 23 Dec 2012 Actual Completion: 21 Dec 2012 End of Defects Liability: 21 Jun 13	• Defects Liability Certificate was issued.
MRD-CW5-Lot1 Stage 3 Prey Veng	Contract Value: \$1,386,020.84 Start date: 02 July 2013 Completion date: 02 Jan 2015 Defects Liability: 365 days	• The contract is in good progress with 40% completed works. • Further improvement is needed for EMP implementation in some cases, particularly safety signs during construction.
MRD-CW5-Lot2 Stage 3 Kampong Cham	Contract Value: \$1,962,892.61 Start date: 02 July 2013 Completion date: 02 Jan 2015 Defects Liability: 365 days	• The contract is in good progress with 38% completed works. • Further improvement is needed for EMP implementation in some cases, particularly safety signs during construction.
MRD-CW6-Lot1 Stage 3 Kampong Thom	Contract Value: \$1,666,551.50 Start date: 02 July 2013 Completion date: 02 Jan 2015 Defects Liability: 365 days	• The contract is in good progress with 35% completed works. • Further improvement is needed for EMP implementation in some cases, particularly safety signs during construction.
MRD-CW6-Lot2 Stage 3 Siem Reap	Contract Value: \$1,316,766.85 Start date: 02 July 2013 Completion date: 02 Jan 2015 Defects Liability: 365 days	• The contract is in good progress with 44% completed works. • Further improvement is needed for EMP implementation in some cases, particularly safety signs during construction.
MRD-CW7 Stage 3 Banteay Mean Chey	Contract Value: \$948,244.77 Start date: 20 December 2013 Completion date: 02 Jan 2015 Defects Liability: 365 days	• The contract is in good progress with 37% completed works. • Further improvement is needed for EMP implementation in some cases, particularly safety

CONTRACT No.	CONTRACT DATA	KEY ISSUES/REMARKS
		signs during construction.

2.3 Component 3: Irrigation and Flood Control

Under this component, about 26 flood damaged irrigation schemes covering about 25,000 ha will be repaired in at least 5 provinces: Prey Veng, Kampong Cham, Kampong Thom, Siem Reap, and Battambang. From the start of the project till the semi-annual, December 2013, the following some stage-2 and stage 3 subprojects are under construction:

MoWRAM- Status of Subprojects implementation

CONTRACT No.	CONTRACT DATA	KEY ISSUES/REMARKS
MoWRAM-CW1 Stage 2 Prey Veng	Contract Value: \$1,140,859.39 (\$230,842.37 for Lam Loang +\$910,017.02 for Toul Skea) Start date: June 2012 Completion date: 25 Dec 2012 Time Extension1: 30 Mar 2013 Time Extension2: 31 Jul 2013	<ul style="list-style-type: none"> • 100% completed for Lam Long • Further improvement is needed for EMP implementation in some cases, particularly safety signs during construction.
MoWRAM-CW2 Stage 2 Prey Veng	Contract Value:\$1,188,483.46 Start date: 16 July 2012 Completion date: 16 Jan 2013 Time Extension: 31 Mar 2013	<ul style="list-style-type: none"> • Completion Certificate was already issued. • Further improvement is needed for EMP implementation in some cases, particularly safety signs during construction.
MoWRAM-CW3 Stage 3 Prey Veng	Contract Value:\$521,873.83 Revised start date:03/Feb/14 Completion date: 03/Jun/2014	<ul style="list-style-type: none"> • Further improvement is needed for EMP implementation in some cases, particularly safety signs during construction. • 5% progress
MoWRAM-CW4 Stage 3 Kampong Cham	Contract Value: \$2,574,150.13 Start date:15/Nov/2013 Completion date: 12/Jul/2014	<ul style="list-style-type: none"> • Further improvement is needed for EMP implementation in some cases, particularly safety signs during construction. • 45% progress
MoWRAM-CW5 Stage 3 Kampong Cham	Contract Value:\$754,754.58 Revised start date:01/Feb/14 Completion date:01/Aug/14	<ul style="list-style-type: none"> • Just started • Further improvement is needed for EMP implementation in some cases, particularly safety signs during construction.
MoWRAM-CW6 Stage 3 Siem Reap	Contract Value:\$455,109.17 Revised start date:23/Dec/13 Completion date:20/Jun/14	<ul style="list-style-type: none"> • Further improvement is needed for EMP implementation in some cases, particularly safety signs during construction. • 25% progress
MoWRAM-CW7	Cancelled	
MoWRAM-CW8	Cancelled	
MoWRAM-CW9 Stage 2 Kampong Cham	Contract Value:\$ 318,842.81 Start date: 16 July 2012 Completion date:16 Nov 2012 Time Extension: No	<ul style="list-style-type: none"> • Completion Certificate was already issued. • Further improvement is needed for EMP implementation in some cases, particularly safety signs during construction.
MoWRAM-CW10/11 Stage 2 Battambang	Contract Value:\$ 898,489.89 Start date: 16 July 2012 Completion date:16 Feb 2013 Time Extension: 31 Jun 2013	<ul style="list-style-type: none"> • Completion Certificate was already issued. • Further improvement is needed for EMP implementation in some cases, particularly safety signs during construction.
MoWRAM-CW12 Stage 2 Kampong Thom	Contract Value: \$877,937.49 Start date:16 July 2013 Completion date:16 Jan 2013 Time Extension: 31 May 2013	<ul style="list-style-type: none"> • Completion Certificate was already issued. • Further improvement is needed for EMP implementation in some cases, particularly safety signs during construction.
MoWRAM-CW13 Stage 3 Kampong Thom	Contract Value: \$686,982.25 Start date:01 Dec 2013 Completion date:29 May 2014	<ul style="list-style-type: none"> • Further improvement is needed for EMP implementation in some cases, particularly safety signs during construction. • 37% progress
MoWRAM-	Cancelled	

CONTRACT No.	CONTRACT DATA	KEY ISSUES/REMARKS
CW14		
MoWRAM-CW15a-b	Cancelled	
MoWRAM-CW15c	Contract Value: \$67,809.60 Start date:01 Jan 2014 Completion date:31 Mar 2014	<ul style="list-style-type: none"> • Further improvement is needed for EMP implementation in some cases, particularly safety signs during construction. • 50% progress

II. Environmental Categorization

3.1 ADB's classification system

Prior to civil works implementation, all the subprojects described in the above section have been screened and classified using ADB's classification system as follows:

- Category A. A proposed subproject is classified as category A if it is likely to have significant adverse environmental impacts that are irreversible, diverse, or unprecedented. These impacts may affect an area larger than the sites or facilities subject to physical works.
- Category B. A proposed subproject is classified as category B if its potential adverse environmental impacts are less adverse than those of category A projects. These impacts are site-specific, few if any of them are irreversible, and in most cases mitigation measures can be designed more readily than for category A projects.
- Category C. A proposed subproject is classified as category C if it is likely to have minimal or no adverse environmental impacts.

3.2 Subprojects Category

Under component (i), all of the subprojects implemented are in category B for Environment. The projects implemented under stage 3 are in category B for Environment, which can be briefed as follows:

- Emergency reconstruction of Baray Koeut Bridge: There is no loss of trees for the three bridges and there is no borrow pits. The issue is a management of **traffic congestion, the** traffic congestion normally occurs during the peak traffic of vehicles, passing the bypass/detouring roads, the management consultants should install the following signs: i) orient the drivers to comply with the required speed limit. (ii) allows one side to pass through and then other side pass, (iii) having signs to warn such as detouring/bypass roads on the right/left hand sides, slow down and the site in front 200 meters, (iv) install traffic/warning signs like “safety first” at the construction of bridge.
- Emergency reconstruction of Sam Puthor and Ampil Krao bridges: Subproject CW5 involves the reconstruction of Ampil Krao Bridge at PK 127+300, Samput Thour Bridge at PK 103+600 and detour road in Svay Anthor/Prey Veng District, Prey Veng Province.

There is no loss of trees for the three bridges and there is no borrow pits. The issue is a management of **traffic congestion, the** traffic congestion normally occurs during the peak traffic of vehicles, passing the bypass/detouring roads, the management consultants should install the following signs: i) orient the drivers to comply with the required speed limit. (ii) allows one side to pass through and then other side pass, (iii) having signs to warn such as detouring/bypass roads on the right/left hand sides, slow down and the site in front 200 meters, (iv) install traffic/warning signs like “safety first” at the construction of bridge.

- Emergency reconstruction of CW6-(a,b,c) DBST provincial road 270, bridges and box culverts: A few trees within the corridor of impact (CW6a) were voluntary donation to the project and there is no borrow pits. The issue is a management of **traffic congestion, and the detour road/bypass, the** traffic congestion normally occurs during the peak traffic of vehicles, passing the bypass/detouring roads, the management consultants should install the following signs: i) orient the drivers to comply with the required speed limit. (ii) allows one side to pass

through and then other side pass, (iii) having signs to warn such as detouring/bypass roads on the right/left hand sides, slow down and the site in front 200 meters, (iv) install traffic/warning signs like “safety first” at the construction of bridge.



- Emergency reconstruction of CW7 DBST provincial road 270, bridges and box culverts: A few trees within the corridor of impact were voluntary donation to the project and there is no borrow pits. The issue is a management of **traffic congestion, and the detour road/bypass, the** traffic congestion normally occurs during the peak traffic of vehicles, passing the bypass/detouring roads, the management consultants should install the following signs: i) orient the drivers to comply with the required speed limit. (ii) allows one side to pass through and then other side pass, (iii) having signs to warn such as detouring/bypass roads on the right/left hand sides, slow down and the site in front 200 meters, (iv) install traffic/warning signs like “safety first” at the construction of bridge.



- Emergency reconstruction of CW8 DBST, bridges and box culverts: A few trees within the corridor of impact were voluntary donation to the project and there is no borrow pits. The issue is a management of **traffic congestion, and the detour road/bypass, the** traffic congestion normally occurs during the peak traffic of vehicles, passing the bypass/detouring roads, the management consultants should install the following signs: i) orient the drivers to comply with the required speed limit. (ii) allows one side to pass through and then other side pass, (iii) having signs to warn such as detouring/bypass roads on the right/left hand sides, slow down and the site in front 200 meters, (iv) install traffic/warning signs like “safety first” at the construction of bridge.



Under component (ii), all of the 275.2km rural roads implemented under stage 2 are in category B for environment. The restoration works for those flood-damage laterite roads did not involve any road widening, embankment raising or changing the existing alignments. The scope of works was to reconstruct the road sub-base and top up with either 10cm or 15 cm with laterite layer. The rural roads normally are generated of dust, the dust pollution is nuisance to communities, who live adjacent to the roads, especially during dry season. The dusts also affect aesthetics. And other issue is site management for construction of box culverts and/or culverts; the contractor has to be responsible for site management include traffic, site camp and pollutions from human. The civil work for stage 3 has been started in the fourth quarter of 2013.



Under component (iii), all of the 10 irrigation subprojects implemented under stage 2 are in category B for environment issue, therefore, it is designing the IEEs and EMPs reports to monitor. The scope of works was to reconstruct the flood-damage embankments or replaced existing damage structures and to restore to the pre-flood conditions. The civil work for irrigation subprojects mainly impact by generation of domestic wastes which is from camps or living quarters if not properly managed. Other issue is the loss of agricultural land for borrows pits.

3.3 Grievance Redress Mechanisms

Provincial Sub-committees for Resettlement have been established in the project provinces especially in the subproject commune in order to solve any environmental issues that not comply with the (EMP) including complaints from local people. All affected persons will be made fully aware of their rights, and the detailed grievance redress procedures will be publicized through an effective public information campaign. The following mechanisms, which are in line with the project framework, were adopted and implemented for complaint handling. The grievance redress process includes four stages:

- First stage: Complaints and grievances will be provided verbally or in writing to the village chief, commune chief or field PIU staff. The receiving agent will provide immediate written confirmation of receiving the complaint. If after 15 days the complainant does not hear from the village and commune chiefs or field PIU staff, or if he/she is not satisfied with the decision taken in the first stage, the complaint may be brought to the District Office.
- Second stage: The District Office has 15 days within which to resolve the complaint to the satisfaction of all concerned. If the complaint cannot be solved at this stage, the District Office will bring the case to the Provincial Grievance Redress Committee.
- Third stage: If the aggrieved affected household does not hear from the District Office or is not satisfied, he/she can bring the case to Provincial Court. The Court will make a written decision and submit copies to the executing agency and implementation agencies.
- Fourth stage: If any party is still unsatisfied with the Provincial Court judgment, he/she can bring the case to a higher-level court.

IV. Method of Monitoring

PCMU consultant frequently conducted field visits to each subproject site. During each field visits particular attention have been paid to the environmental issue i.e. the statement issues of the Environmental Management Plan have been verified with the implementation of civil works of contractors. Table below indicated the field visits to IAs subprojects by PCMU consultants:

No	Date of field visits	Subprojects-IAs
1	2-4 Jan 2013	Field visits to Siem Reap province with MOWRAM/Krapeu main canal project
2	14-15 Jan 2013	Field visit to Kampong Cham, MPWT/ CW6a, double checking and verifications with independent consultant
3	22-26 Jan 2013	Accompsnied ADB mission/site visite to 3-IAs
4	30-31, Jan and 1 Feb 2013	Field visit to verify CW6a with MPWT from the recommendation of ADB mission.
5	22-23 Feb 2013	Field visits and consultative meeting at CW7/MPWT
6	20-22 Mar 2013	Checking environmental safeguards MRD/rural road in BMC and MOWRAM/Kamping Pouy irrigation
7	25-25 Mar 2013	Field visits to Prey Veng and Kampong Cham provinces MPWT and MOWRAM
8	4-5 April 2014	Conducted field visit to Boeung Kak&Srok Dams, Hun Sen Baray /MOWRAM subprojects
9	8 May 2013	Field Visit to CW5, CW4 of MPWT, Toul Skea and Lamloang irrigations system/Mowram
10	25-28 June 2013	Conducted field visits to Prey Veng, Kampong Cham, Battambang and Kampong Thom provinces, all MPWT and MOWRAM subproject
11	13-15 August 2013	Conducted field visits to Prey Veng, Kampong Cham and Battambang
12	21-29 Oct 2013	Conducted field visits to Prey Veng, Kampong Cham, Siem Reap and Banteay Meanchey
13	26-30 Nov 2013	Conducted field visits to Battambang, Banteay Meanchey, Siem Reap, Kampong Thom, Kampong Cham and Prey Veng

V. Monitoring Results

Under component (i), all environmental management plan had been monitor during constructions. The results of the monitoring are summarized as follows:

- Emergency repair of CW6c in Kampong Cham Province: It was observed that there is no potential impact on environmental issue. The EMPs had been followed under construction. It was also confirmed by local authorities that no complaint has been received regarding construction works.



Photos: CW 6c road-DBST

General information	DD/MM/YY	28 Dec 2013		
	Report prepared by	Andrelita J. Sto.Domingo Bun San		
	Name of road and location of construction site	CW6c		
	Name of contractor/ subcontractor	Ung Sim Sia Construction Co., LTD		
Permits, agreements	Request for obtaining a permit for quarry /borrow pit opening during construction	√ Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
	Request for obtaining an agreement for disposal of construction waste	√ Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Management of construction Sites	Proper location of construction site/camp	√ Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
	Aggregate/asphalt batching plants properly licensed and approved by Ministry of the Environment (MOE).	<input type="checkbox"/> Yes	<input type="checkbox"/> No	√ N/A
	Availability of proper storage for fuel, oil and construction materials	√ Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
	Proper maintenance of construction machinery and equipment (prevent leakage of fuel, oil, lubricants, etc.)	√ Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
	Availability of temporary storage areas for excavated and demolished materials and construction wastes within the existing right-of-way	√ Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
	Timely removal of excavated and demolished materials and construction waste from the temporary storage areas to planned and agreed places,	√ Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
	Use covered trucks for transportation of construction materials and waste	√ Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A Note: For long distance travel only.
	Clean the surrounding area from dust by water sprinkling in construction zone (when necessary)	√ Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
	Clean/ wash tires of vehicles before they get to dwellings and/or drive on highways (when necessary)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	√ N/A Note: No significant dirt stick on tires.
	Implementation of works at the established time (e.g. work during daytime 07.00 to 17.00) <i>Note: The Contractor should consider proper scheduling of construction activities particularly in sensitive areas. Acoustic barriers or enclosures for working areas should be provided</i>	<input type="checkbox"/> Yes	√ No	<input type="checkbox"/> N/A Note: The work generally starts from 0700am to 1700pm
	Installation of road signs in construction sites, camps and along access roads	√ Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
	Ensure proper sanitary/ hygienic conditions for workers at the construction site	<input type="checkbox"/> Yes	<input type="checkbox"/> No	√ N/A
Management of constructionsites	Restoration of the area of construction sites and camps when the construction works are over	√ Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
	Replanting/planting of finished work areas (i.e. embankment slopes, borrow pits, etc.)	√ Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A

- Emergency reconstruction of CW8 DBST, bridge and culverts: It was observed that there is no environmental impact for bridges constructions. It was also confirmed by local village chief that there has never been any complaint from the local people so far regarding the bridge constructions.



Photos: dust control



Photo: picking up the rubbishes.

General information	DD/MM/YY	28 Nov 2013		
	Report prepared by	Andrelita J. Sto.Domingo Bun San		
	Name of road and location of construction site:	- CW8, DBST of 34.5 km, bridge and culverts		
	Name of contractor/ subcontractor:	Ung Sim Sia Construction Co., LTD and Seaboard joint-venture		
Permits, agreements	Request for obtaining a permit for quarry/borrow pit opening during construction	√ Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
	Request for obtaining an agreement for disposal of construction waste	√ Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
Management of constructionsites	Proper location of construction site/camp	√ Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
	Aggregate/asphalt batching plants properly licensed and approved by Ministry of the Environment (MOE).	<input type="checkbox"/> Yes	<input type="checkbox"/> No	√ N/A
	Availability of proper storage for fuel, oil and construction materials	<input type="checkbox"/> Yes	<input type="checkbox"/> No	√ N/A
	Proper maintenance of construction machinery and equipment (prevent leakage of fuel, oil, lubricants, etc.)	√ Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
	Availability of temporary storage areas for excavated and demolished materials and construction wastes within the existing right-of-way	√ Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
	Timely removal of excavated and demolished materials and construction waste from the temporary storage areas to planned and agreed places	√ Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
	Use covered trucks for transportation of construction materials and waste	√ Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
	Clean the surrounding area from dust by water sprinkling in construction zone (when necessary) (Two times per day)	√ Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
	Clean/ wash tires of vehicles before they get to dwellings and/or drive on highways (when necessary)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	√ N/A
	Implementation of works at the established time (e.g. work during daytime 07.30 to 17.30)	√ Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
	Installation of road signs in construction sites, camps and along access roads	√ Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
	Ensure proper sanitary/ hygienic conditions for workers at the construction site	<input type="checkbox"/> Yes	√ No	<input type="checkbox"/> N/A
Management of construction sites	Restoration of the area of construction sites and camps when the construction works are over	√ Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
	Replanting/planting of finished work areas (i.e. embankment slopes, borrow pits, etc.)	√ Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A

- Emergency reconstruction of DBST/CW7: It was observed there have been good dust control by applying the water, please see picture below during the field visits.



Photo: Dust control/water spraying

Photo: CW7 traffic signs

General information	DD/MM/YY	27 Oct 2013		
	Report prepared by	Andrelita J. Sto.Domingo Bun San		
	Name of road and location of construction site:	CW7: DBST 8.1 km		
	Name of contractor/ subcontractor:	Tang Kim Eng		
Permits, agreements	Request for obtaining a permit for quarry/borrow pit opening during construction	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
	Request for obtaining an agreement for disposal of construction waste	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
Management of constructionsites	Proper location of construction site/camp	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
	Aggregate/asphalt batching plants properly licensed and approved by Ministry of the Environment (MOE).	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A
	Availability of proper storage for fuel, oil and construction materials	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
	Proper maintenance of construction machinery and equipment (prevent leakage of fuel, oil, lubricants, etc.)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
	Availability of temporary storage areas for excavated and demolished materials and construction wastes within the existing right-of-way	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
	Timely removal of excavated and demolished materials and construction waste from the temporary storage areas to planned and agreed places	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
	Use covered trucks for transportation of construction materials and waste	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
	Clean the surrounding area from dust by water sprinkling in construction zone (when necessary) (Two times per day)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
	Clean/ wash tires of vehicles before they get to dwellings and/or drive on highways (when necessary)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
	Implementation of works at the established time (e.g. work during daytime 07.30 to 17.30)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
	Installation of road signs in construction sites, camps and along access roads	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
	Ensure proper sanitary/ hygienic conditions for workers at the construction site	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A
Management of construction sites	Restoration of the area of construction sites and camps when the construction works are over	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A
	Replanting/planting of finished work areas (i.e. embankment slopes, borrow pits, etc.)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A

VI. Conclusions and Recommendations

During construction under component (i) a series of temporary negative impacts including dust, noisy, road safety, worker's safety, wastewater, solid waste and water contamination have been occurred,

However, those impacts are avoidable and reduced by environmental control measures and mitigation measures and there is a need to regular check by the safeguards specialists.

In order to reduce the impacts, the alternative approaches are recommended as below: The environmental mitigation measures and environmental monitoring plan which present in the IEE and EMP reports should be implemented. Good cooperation between all stakeholders, especially IAs, EA and local authorities should be undertaken.

Further investigations are needed with regard to developing a suitable design for the excavation and borrow pit, for all IAs' subprojects so that these may provide a range of multiple uses for the farmers whose land they will be excavated on.