

# Environmental Monitoring Report

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Annual Report  
December 2018

## SRI: Integrated Road Investment Program – Tranches 2, 3 & 4

### PIC 03 – Sabaragamuwa, Central Provinces and Kaluthara District

Prepared by the Road Development Authority, Ministry of Highways and Road Development and Petroleum Resources Development for the Asian Development Bank.

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**DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA  
MINISTRY OF HIGHWAYS AND ROAD DEVELOPMENT  
AND PETROLEUM RESOURCES DEVELOPMENT**

**ADB Funded Integrated Road Investment  
Program PIC03 - Central and  
Sabaragamuwa Provinces and Kalutara  
District in the Western Province**

**ENVIRONMENTAL SAFEGUARD  
MONITORING ANNUAL REPORT**  
[January – December 2018]



Submitted to  
Project Implementation Unit (PIU)  
Road Development Authority



Prepared by  
Egis International Joint Venture with  
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## LIST OF ABBREVIATIONS

ADB	Asian Development Bank
AF	Affected Families
BIQ	Basic Information Questionnaire
BOQ	Bills of Quantities
CE	Constriction Engineer
CEA	Central Environmental Authority
CRC	Conventional Road Contracts
CSD	Context Sensitive Design
DWLC	Department of Wildlife Conservation
DS	Divisional Secretary
DSD	Divisional Secretariat Division
EIA	Environmental Impact Assessment
ES	Environmental Specialist
EA	Executing Agency
EARF	Environmental Assessment and Review Framework
IPP	Indigenous Peoples Plan
EMAP	Environmental Management Action Plan
EMP	Environmental Management Plan
EMC	Environmental Monitoring Checklist
EPL	Environmental Protection License
ESA	Environmental Safeguard Assistant
ESDD	Environmental and Social Development Division
FAM	Project Facility Administration Manual
FGD	Focus Group Discussion
FS	Feasibility Study
GAP	Gender Action Plan
GN	Grama Niladari
GND	Grama Niladari Division
GOSL	Government of Sri Lanka
GRC	Grievance Redress Committee
GRM	Grievance Redress Mechanism
IEE	Initial Environmental Examination
IML	Industrial Mining License
IPPS	Indigenous Peoples Planning Framework
IPP	Indigenous Peoples Plan
IR	Involuntary Resettlement
iROAD	Integrated Road Investment Program
KA	Kandy
KE	Kegalle
KL	Kalutara
MA	Matale
ME	Ministry of Environment
MFF	Multi Tranche Financing Facility
MOH&RD&	Ministry of Highways and Road Development and Petroleum Resources
PRD	Development
MOHPS	Survey and Preliminary Engineering

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MOU	Memorandum of Understanding
MOHEH	Ministry of Higher Education and Highways
NE	Nuwara Eliya
NEA	National Environment Act
OPRC	Output and Performance Base Contracts
PAA	Project Approving Agency
PD	Project Director
PE	Project Engineer
PIC	Project Implementing Consultant
PIU	Project Implementing Unit
PPTA	Project Preparatory Technical Assistance
R	Ratnapura
RDA	Road Development Authority
RE	Residential Engineer
RF	Resettlement Framework
ROW	Right of Way
RMC	Road Maintenance Contract
SAPE	Survey and Preliminary Engineering Consultants
SEO	Social and Environmental Officer
SGRS	Social Gender Resettlement Specialist
SPS	Safeguards Policy Statement
SSA	Social Safeguards Assistant
SSEMAP	Site Specific Environmental Management Action Plans
SSO	Social Safeguard Officer
TL	Team Leader
TO	Technical Officer
TOR	Terms of Reference

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## 1. INTRODUCTION

### 1.1 Project Background

Integrated Road Investment Program (iRoad Program) funded by the Asian Development Bank (ADB) is a project implemented by the Government of Sri Lanka to improve connectivity between rural communities and socioeconomic centers by increasing the transport efficiency of several selected national, provincial and local roads. Under this program which is now in Tranche 4, around 3000 km of rural roads in the Southern, Sabaragamuwa, Central, North Central and North Western Provinces and Kalutara District in the Western Province will be developed and maintained for three years through 42 contracts awarded for civil works. The Ministry of Highways and Road Development and Petroleum Resources Development (MOHRD&PRD) is the executing agency of the project while Road Development Authority (RDA) is the implementing agency of the project. Three teams of Project Implementation Consultants (PICs) have been appointed for project implementation which includes construction supervision, performance-based maintenance, and contract management. Improvement of 328 rural roads (1,344 km) in the six districts Matale, Kandy, Nuwara Eliya, Kegalle, Ratnapura and Kalutara, comes under the purview of PIC03. A Project Implementation Unit (PIU) has been set up in the Central and Sabaragamuwa Provinces and Kalutara District in the Western Province. The civil works in each district coming under PIC03 are being covered by three contracts identified as contract packages. Table 1.1 presents the types of roads that are covered by the project and the lengths of those roads.

**Table 1.1: Project road sections in the six districts and their respective lengths**

Province	District	No. of Packages	PS/(Km)	PRDA/(Km)	PS & PRDA/(Km)	MC/(Km)	PS & MC/(Km)	UC/(Km)	Estate (Km)	PS & Estate (Km)	PS, PRDA & Estate (Km)	PRDA, PS, MASL (Km)	Total (Km)
Central Province	Matale	3	109.9	29.9	24.3	25.8						4.1	194.0
	Kandy	3	71.8	72.5	76.7								221.0
	Nuwara Eliya	3	61.05	12.5	32.9				2	62.05	9.5		180.0
Sabaragamuwa Province	Kegalle	3	108.36	66.65	41.24			0.87					217.0
	Ratnapura	3	28.01	149.44	77.55								255.0
Western Province	Kalutara	3	232.1	21.1	18.9	1.7	3.2						277.0
<b>Total Length/ Km</b>		<b>18</b>	<b>611.22</b>	<b>352.09</b>	<b>271.59</b>	<b>27.5</b>	<b>3.2</b>	<b>0.87</b>	<b>2</b>	<b>62.05</b>	<b>9.5</b>	<b>4.1</b>	<b>1344.0</b>

The Environmental Assessment Review Framework (EARF) of the iRoad Program requires the preparation of an Environmental Compliance Monitoring Report annually and this report will fulfill this requirement. The report covers the period from January to December 2018.

## 1.2 Project Objectives

The specific objectives of the project that comes under the purview of PIC03 are as follows:

- To improve road conditions between rural communities and socioeconomic centers of Sabaragamuwa and Central Provinces and Kalutara District in the Western Province
- To upgrade and maintain to all-weather standard, 1,344 km of rural roads connecting rural communities
- To improve connectivity between production centers and market places, and linkage with other districts and provinces
- To facilitate increased mobility by improving road networks that link up with other provinces
- To open up rural areas for development
- To facilitate and generate efficiency gains by lowering the unit cost of individual producers through transport efficiency which will lead to increase their margins and profits thus generating to them another round of investments
- To reduce rural poverty through improved access to markets and economic centers, social, health, and education infrastructure and new employment opportunities

By improving the status of the rural road network of the country, the project will contribute to one of the key development goals of the Government of Sri Lanka, which is to remove all constraints to enable rapid economic growth and lower the poverty levels in the country. It will also provide more economic opportunities to the people of the country as well as the basic social, health, and education facilities they require.

The project will also ensure that women get closely involved in the design, construction, and maintenance of rural roads.

### 1.3 Project Location

The project that comes under the purview of PIC03 is implemented in six administrative districts: Ratnapura and Kegalle Districts in the Sabaragamuwa Province; Kalutara District in the Western Province; and Kandy, Matale and Nuwara Eliya Districts in the Central Province.

Figure 1 shows the locations of the six administrative districts.

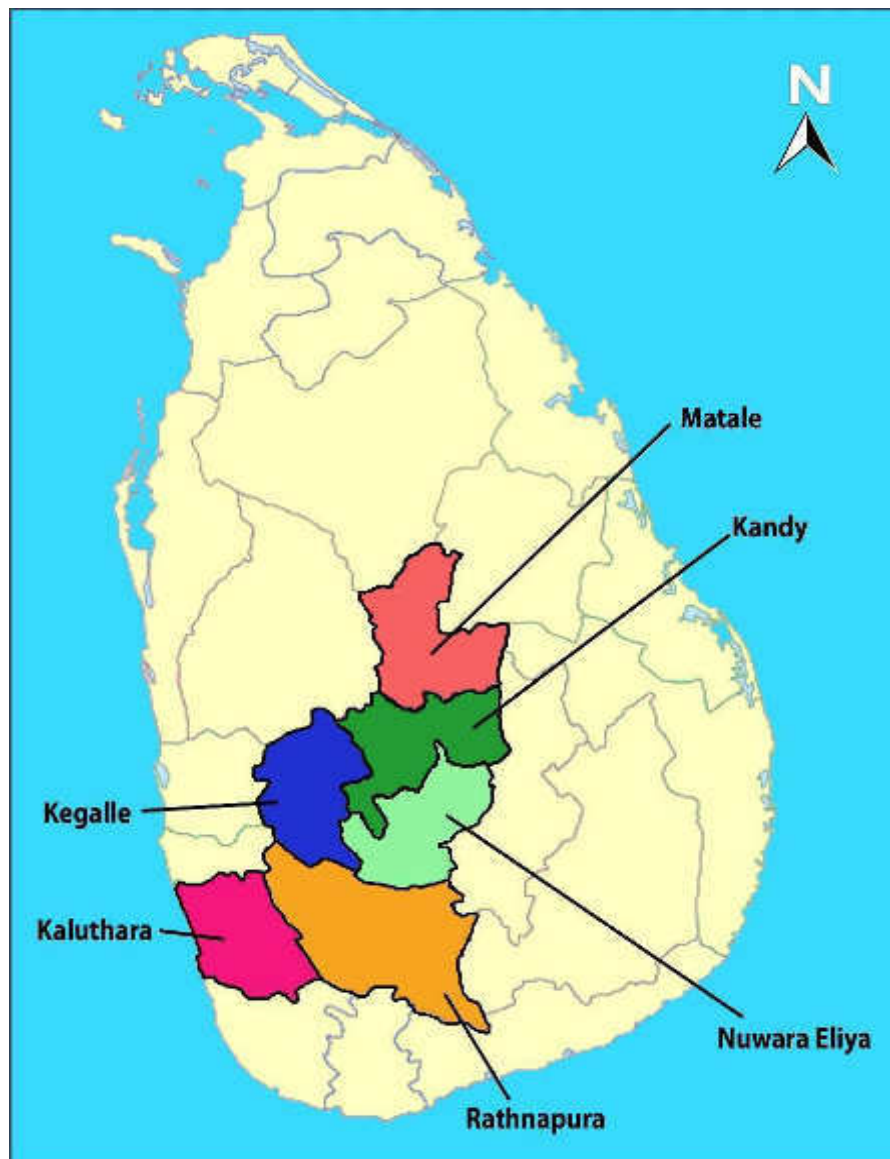


Figure 1 Districts covered by the project- PIC03

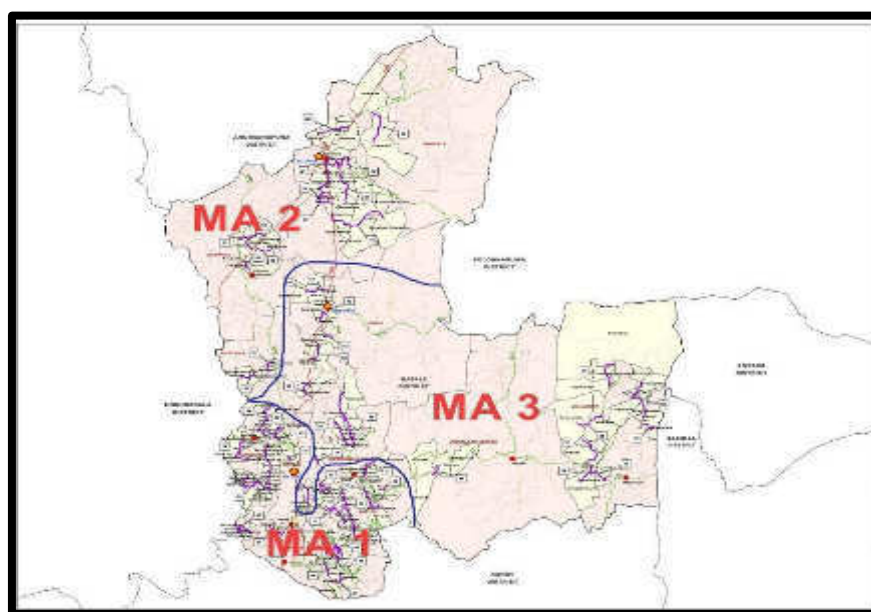
## 1.4 Conventional Road Contracts (CRCs)

Table 1.2 below presents the details of the three contract packages of each district.

**Table 1.2 Details of the contract packages**

District	Package number	Total number of roads	Total length of the roads (km)
Kalutara	KL 1, KL 2 and KL 3	83	277
Kandy	KA 1, KA 2 and KA 3	50	221
Kegalle	KE 1, KE 2 and KE 3	63	217
Matale	MA 1, MA 2 and MA3	51	194
Nuwara Eliya	NE 1, NE 2 and NE 3	43	180
Ratnapura	R 1, R 2 and R 3	38	255
Total		328	1344

Figures 2 – 7 indicate the roads that come under the three contract packages of each of the six districts. The details of the contract packages are given in Tables 3-8.

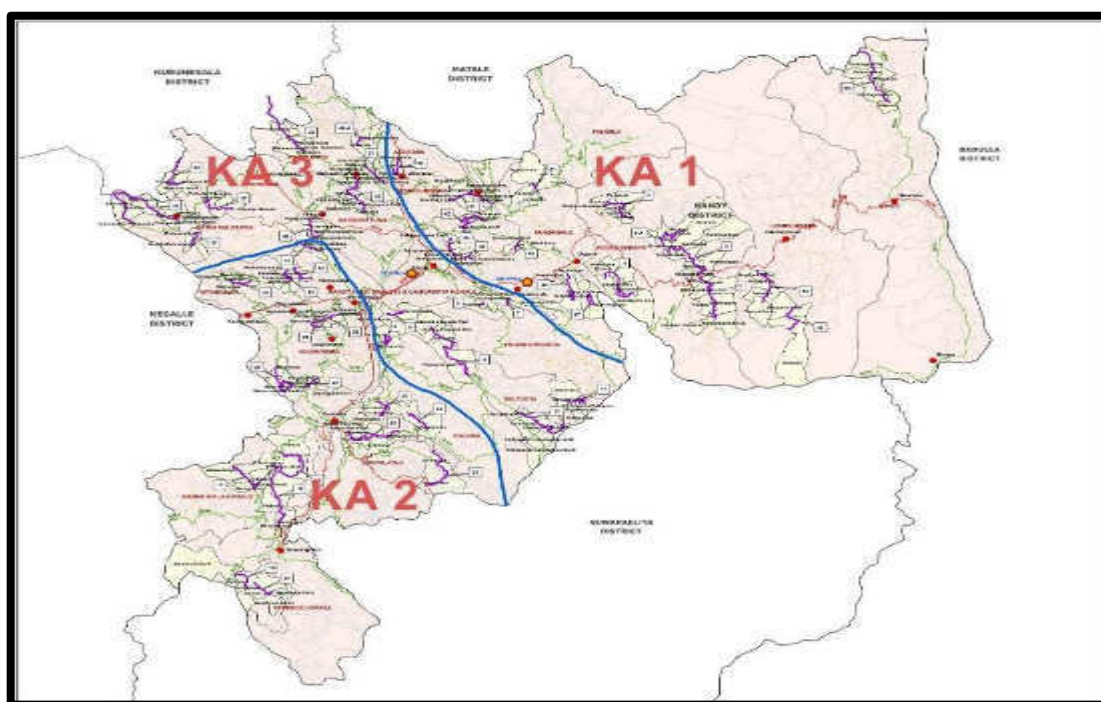


**Figure 2 Roads coming under the three contract packages of the Matale District (51 roads, 194 km in total length)**

**Table 1.3 Details of the three contract packages of the Matale District**

Contract package number	Contractor	Contract price (Rs. Mn)	Date of commencement	No. of roads	Total road length (km)	No of roads in which civil works are in progress	No. of roads handed over (as at 31 <sup>st</sup> Dec. 2018)	No. of roads in which civil works have not yet commenced
<b>MA1</b>	K. D. Ebert & Sons Holdings (Pvt) Ltd	1,622	17.12.2015	18	75.7	16*	-	2
<b>MA2</b>	Edward and Christie	1,249	17.12.2015	14	57.0	-	14	-
<b>MA3</b>	CML-MTD Construction Ltd	1,408	17.12.2015	19	61.3	-	19	-
<b>Sub Total for Matale District</b>		<b>4,279</b>	<b>-</b>	<b>51</b>	<b>194.0</b>	<b>16</b>	<b>33</b>	<b>2</b>

*Note.* Progress of the construction work of the package is slow.

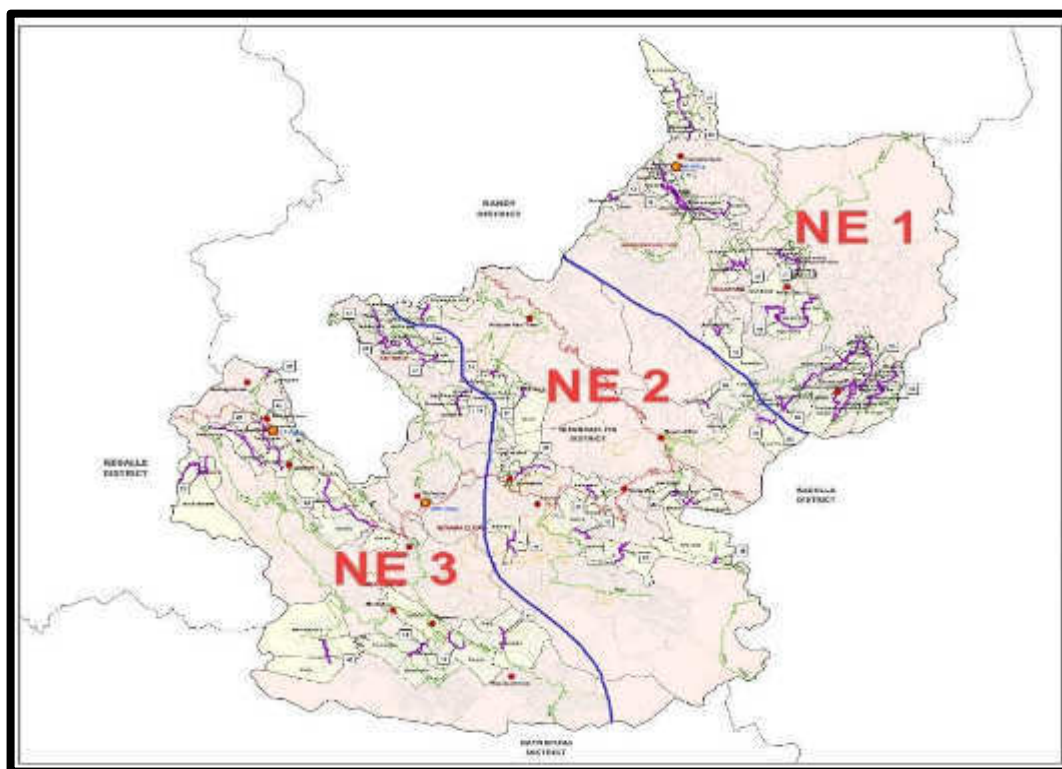


**Figure 3 Roads coming under the three contract packages of the Kandy District (50 roads, 221 km in total length)**



**Table 1.4 Details of the three contract packages of the Kandy District**

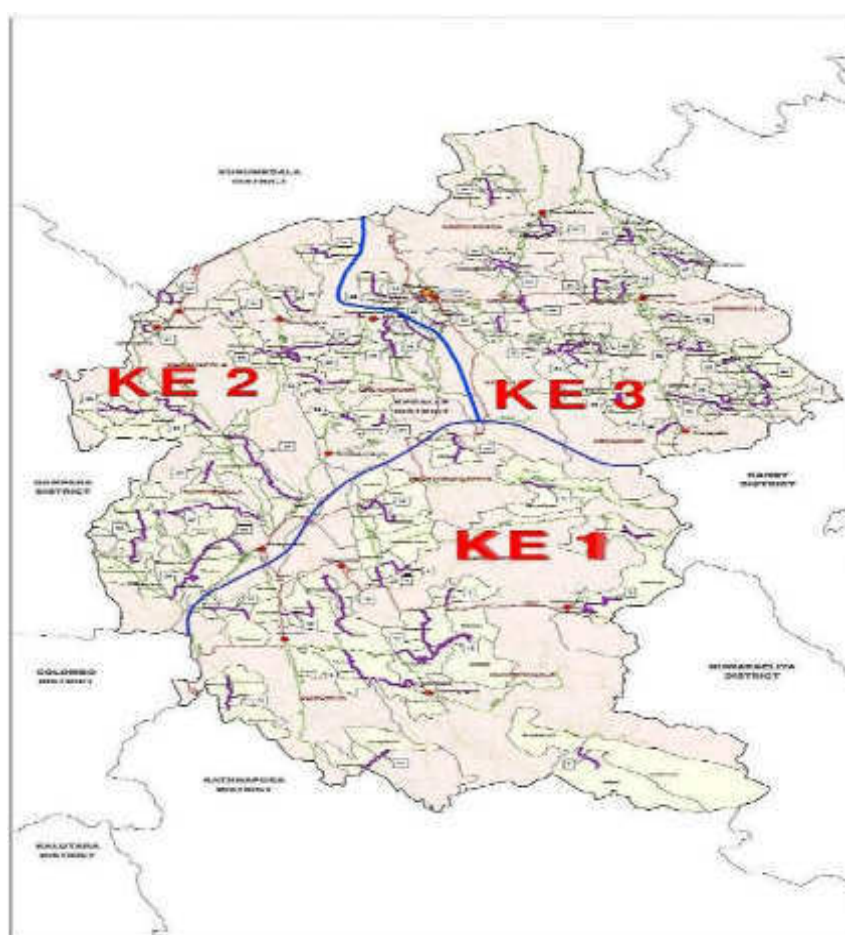
Contract package number	Contractor	Contract price (Rs. Mn)	Date of commencement	No. of roads	Total road length (km)	No of roads in which civil works are in progress	No. of roads handed over (as at 31 <sup>st</sup> Dec. 2018)
KA1	Sierra Constriction (Pvt) Ltd	1,756	17.12.2015	17	76.2	9	8
KA2	Sierra Constriction (Pvt) Ltd	1,924	17.12.2015	17	70.85	8	9
KA3	Edward & Christie	2,097	17.12.2015	16	73.95	5	11
<b>Sub Total for the Kandy District</b>		<b>5,777</b>	<b>-</b>	<b>50</b>	<b>221.0</b>	<b>22</b>	<b>28</b>



**Figure 4 Roads coming under the three contract packages of the Nuwara Eliya District (43 roads, 180 km in total length)**

**Table 1.5 Details of the three contract packages of the Nuwara Eliya District**

Contract package number	Contractor	Contract price (Rs. Mn)	Date of commencement	No. of roads	Total road length (km)	No of roads in which civil works are in progress	No. of roads handed over (as at 31 <sup>st</sup> Dec. 2018)
<b>NE1</b>	Sierra Constriction (Pvt) Ltd	2,298	17.12.2015	14	76.6	11	3
<b>NE2</b>	Sierra Constriction (Pvt) Ltd	1,242	17.12.2015	14	38.5	-	14
<b>NE3</b>	Sierra Constriction (Pvt) Ltd	2,070	17.12.2015	15	64.9	12	3
<b>Sub Total for the Nuwara Eliya District</b>		<b>5,610</b>	<b>-</b>	<b>43</b>	<b>180.0</b>	<b>23</b>	<b>20</b>

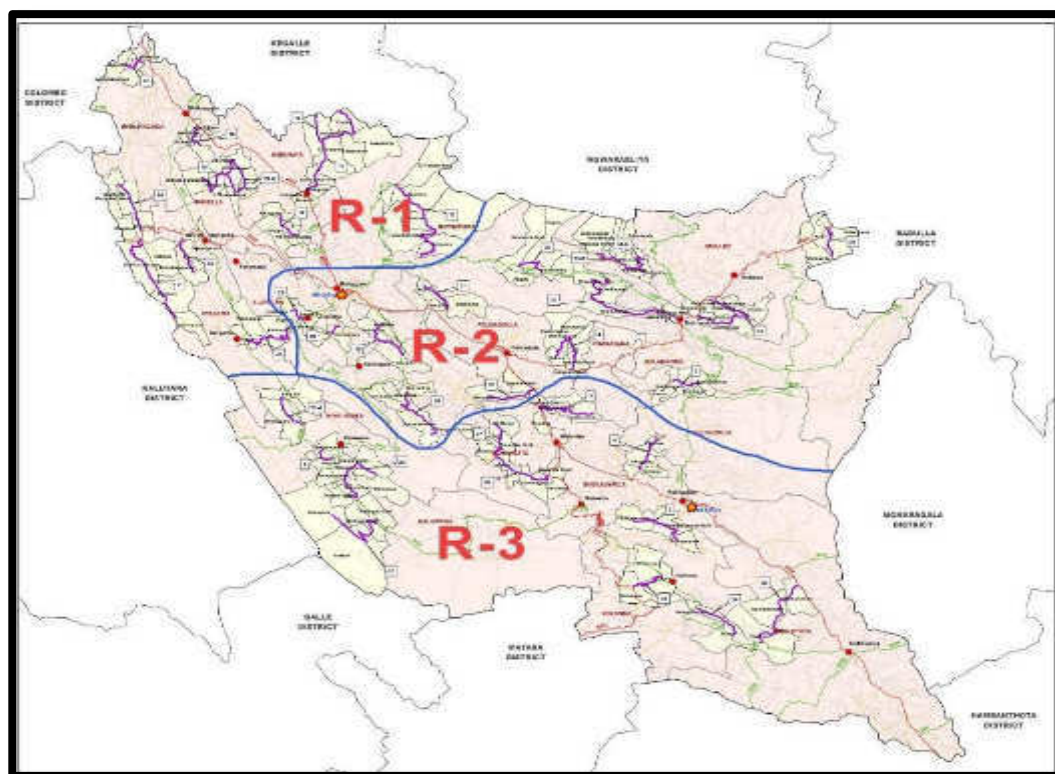


**Figure 5 Roads coming under the three contract packages of the Kegalle District (63 roads, 217 km in total length)**

**Table 1. 6 Details of the three contract packages of the Kegalle District**

Contract package number	Contractor	Contract price (Rs. Mn)	Date of commencement	No. of roads	Total road length (km)	No of roads in which civil works are in progress	No. of roads handed over (as at 31 <sup>st</sup> Dec. 2018)	No. of roads in which civil works have not yet commenced
KE1	K. D. Ebert &	1,973	17.12.2015	17	74.75	13*	-	4
KE2	Nawaloka Constructi	1,817	17.12.2015	21	78.25	16	4	1
KE3	Nawaloka Constructi	1,632	17.12.2015	25	64.12	21	2	2
<b>Sub Total for the Kegalle District</b>		<b>5,422</b>	<b>-</b>	<b>63</b>	<b>217.12</b>	<b>50</b>	<b>6</b>	<b>7</b>

*Note.* Progress of the construction work of the package is slow.



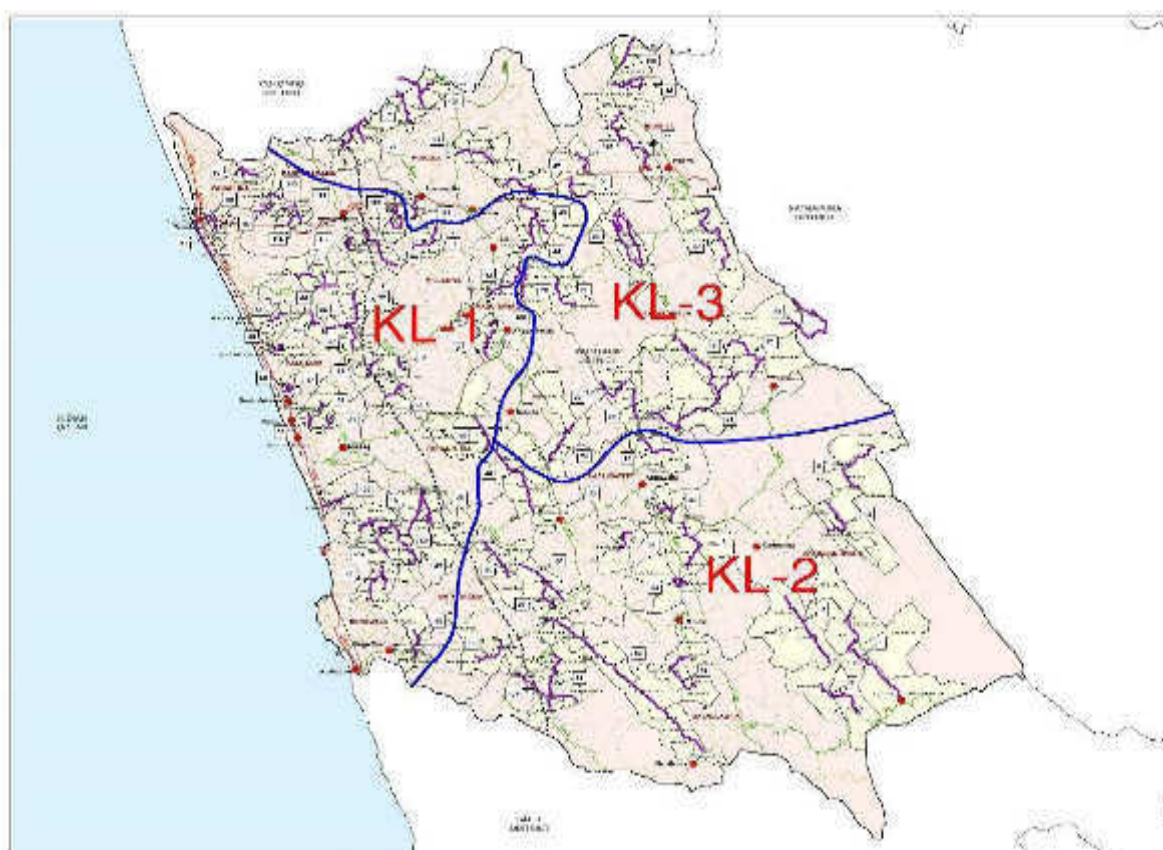
**Figure 6 Roads coming under the three contract packages of the Ratnapura District (38 roads, 255 km in total length)**



**Table 1. 7 - Details of the three contract packages of the Ratnapura District**

Contract package number	Contractor	Contract price (Rs. Mn)	Date of commencement	No. of Roads	Total road length (km)	No of roads in which civil works are in progress	No. of roads handed Over (as at 31 <sup>st</sup> Dec. 2018)	No. of roads in which civil works have not yet commenced
R1	K. D. Ebert & Sons Holdings (Pvt) Ltd	2,022	17.12.2015	12	82.95	7*	-	5
R2	K. D. Ebert & Sons Holdings (Pvt) Ltd	2,384	17.12.2015	14	91.7	11*	-	3
R3	RR Construction (Pvt) Ltd	2,021	17.12.2015	12	80.35	-	12	-
<b>Sub Total for the Ratnapura District</b>		<b>6,427</b>	<b>-</b>	<b>38</b>	<b>255.0</b>	<b>18</b>	<b>12</b>	<b>8</b>

*Note.* Progress of the construction work of the package is slow.



**Figure 7 Roads coming under the three contract packages of the Kalutara District (83 roads, 277 km in total length)**

**Table 1.8 Details of the three contract packages of the Kalutara District**

Contract package number	Contractor	Contract price (Rs. Mn)	Date of commencement	No. of roads	Total road length (km)	No of roads in which civil works are in progress	No. of roads handed over (as at 31 <sup>st</sup> Dec. 2018)	No. of roads in which civil works have not yet commenced
<b>KL1</b>	Maga Engineering (Pvt) Ltd	1,912	28.08.2016	42	94	20	4	18
<b>KL2</b>	Olympus Construction (Pvt) Ltd with Rani Construction (Pvt) Ltd	1,811	29.09.2016	19	89	8	1	10
<b>KL3</b>	Olympus Construction (Pvt) Ltd with Rani Construction (Pvt) Ltd	1,817	29.09.2016	22	94	13	1	8
<b>Sub Total for the Kalutara District</b>		<b>5,540</b>	<b>-</b>	<b>83</b>	<b>277</b>	<b>41</b>	<b>6</b>	<b>36</b>

### 1.5 Consultancy Services for Project Implementation

Egis-CEA (JV) was appointed as the Project Implementation Consultants for PIC03 on 15 November 2015.

PIC has to monitor and ensure that the contractors adhere to all the requirements stated in the construction contracts. If there is any discrepancy/ deviation, PIC has to instruct the contractors to undertake corrective actions. Contracts are governed by the Conditions of Contract for Building and Engineering Works Designed by the Employer, DB Harmonized Edition, June 2010 published by the International Federation of Consulting Engineers (FIDIC).

The duties and responsibilities of the PIC as set out in the terms of reference provided in the contract for the consultant's services are given below.

- Oversee the activities of the contractors during design, development and execution of the construction of the projects.
- Review and approve contractors' detailed designs and the cost for each civil works contract.
- Social safeguard compliance monitoring
- Project performance and monitoring survey
- Prepare and implement local and overseas capacity development programs for staff of the implementation agency.
- Train counterpart staff from the client's organizations.
- Reporting requirements

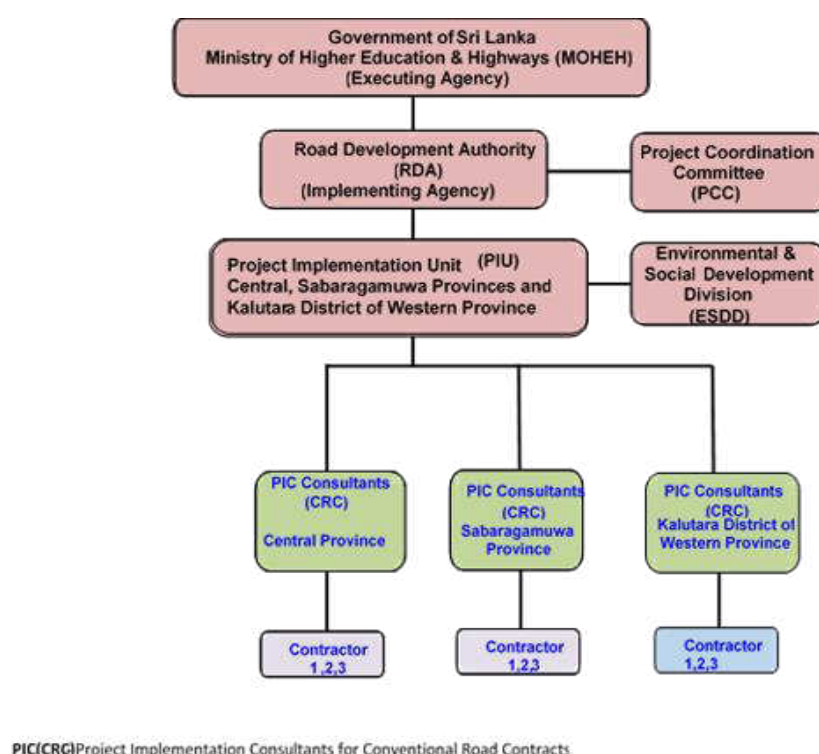
## 1.6 Purpose and Structure of the Report

Para 52 of Section VI of the Environmental Assessment and Review Framework (EARF) on “Monitoring and Reporting” requires an annual monitoring report to be prepared on environmental safeguard compliance of the project.

It overviews environmental safeguard activities conducted by the PIU, PIC and contractors during the reporting period (1 January 2018 to 31 December 2018) and describe the environmental safeguard monitoring process executed by the PIU and PIC.

## 1.7 Overview of the Institutional Framework

The Executing Agency (EA) of the iRoad Investment Program is the Ministry of Highways and Road Development and Petroleum Resources Development (MOHRD&PRD) and the Implementing Agency of the Program is the Road Development Authority (RDA). The overall project organization chart is shown in Figure 8.



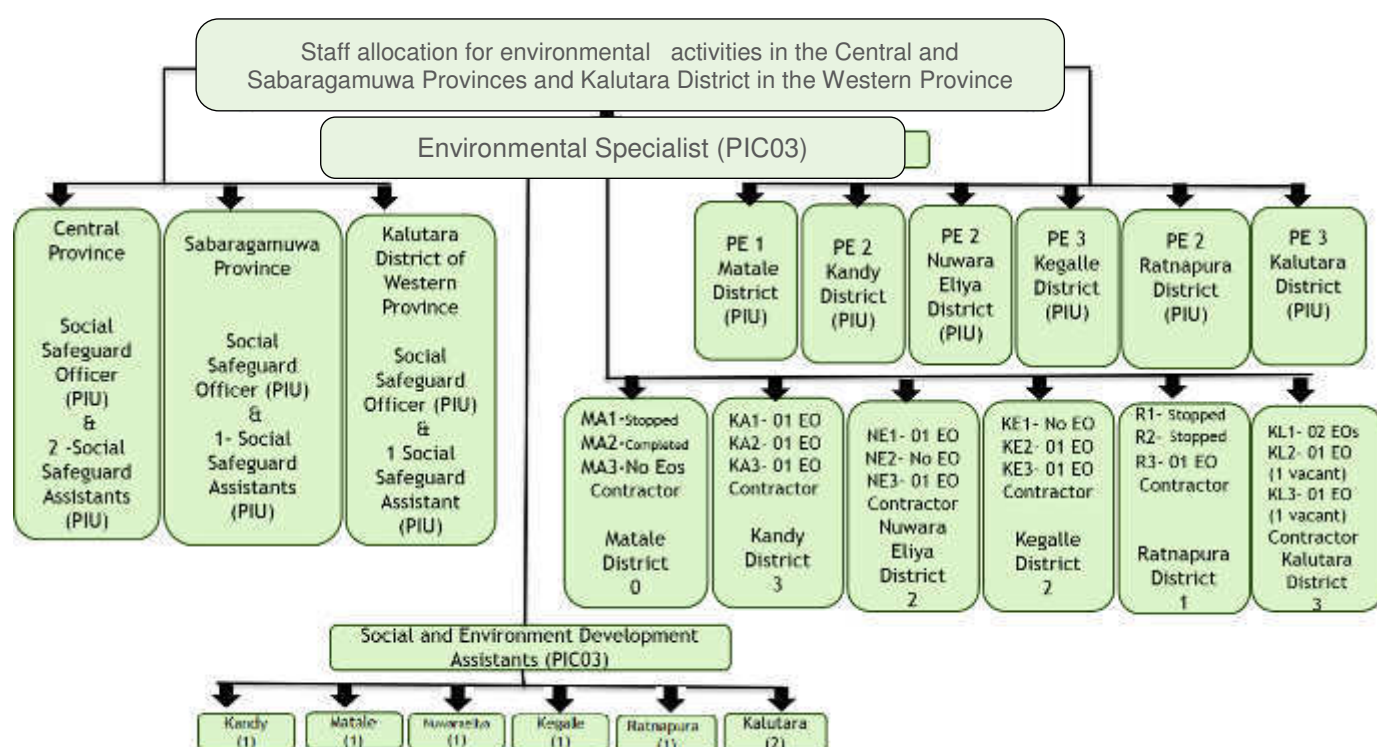
**Figure 8 Overall Organizational Chart for the Central and Sabaragamuwa Provinces and Kalutara District in the Western Province**

PIC is headed by a Team Leader (TL) who is assisted in each district by Resident Engineers, Assistant Resident Engineers, Construction Engineers and Technical Officers. A full time Environmental Specialist (ES) and Social, Gender and Resettlement Specialist (SGRS) directly assist the TL on environment, social/ gender and resettlement aspects of the project respectively.

Duties of the Environmental Specialist are as follows:

- Assist in reviewing the environmental checklists and contract package specific Environmental Management Plans (EMPs) for all project roads and ensure that they have been prepared in accordance with the requirements of the Environmental Assessment and Review Framework (EARF) for all tranches.
- During the preparation of the subsequent tranche, ensure all nominated roads comply with the selection criteria provided in the EARF and prepare due diligence reports on 20% of randomly selected sample of roads for all ongoing project tranches.
- Check compliance of the Initial Environmental Examination (IEE) and standard EMP prepared by the Survey and Preliminary Engineering (SAPE) Consultant Team with the requirements of the EARF.
- Prepare contract package specific EMP with the requirements of the EARF and respective province level IEE.
- Prepare monitoring reports on an annual basis based on monitoring checklists completed for each project road during pre- construction, post construction or maintenance stages.

The Environmental Specialist will be assisted in his work by staff members of the PIU, PIC and contractors. Staff allocation for environmental activities in the Central and Sabaragamuwa Provinces and Kalutara District in the Western Province is shown in Figure 9.



**Figure 9 Staff allocation for environmental activities in the Central and Sabaragamuwa Provinces and Kalutara District in the Western Province**

In addition to the above-mentioned staff, CSD and Safeguards Specialist (Contract No. TA8473) and ESDD staff also extend their support to the Environmental Specialist to train field staff using the experience they have gained by working in PIC01 and PIC02.



## 2. OVERALL PHYSICAL PROGRESS OF THE CONVENTIONAL ROAD CONTRACTS

There are altogether 18 civil contracts for conventional roads coming under PIC03 (Table 1.1). The dates of commencement of the civil works of each contract are given in Table 2.1

**Table 2.1 Dates of commencement of civil works in the six districts**

Province	District	Contract package	Date of Commencement of Civil Works
Central	Kandy	KA1, KA2 and KA3	17.12.2016
	Matale	MA1, MA2 and MA3	17.12.2016
	Nuwara Eliya	NE1, NE2 and NE3	17.12.2016
Sabaragamuwa	Kegalle	KE1	17.12.2016
		KE2 and KE3	29.03.2016
	Ratnapura	R1, R2 and R3	17.12.2016
Western	Kalutara	KL1	28.08.2016
		KL2 and KL3	29.09.2016

Tables 2.2- 2.4 present the physical progress of the civil works in the provinces. This same information is presented graphically in Figures 10-12.

**Table 2.2 Physical progress of the civil works in the Central Province (as at 31 December 2018)**

Package No.	Contractor	Accepted Contract Amount (Mn)	No. of Roads	Actual Total Road Length / (km)	No. of Roads Civil Works Started	No. of Roads Civil Works Not Started	No. of Roads In Slow Progress	No. of Roads Handed over (Up to 31 <sup>st</sup> of December 2018)	Physical Progress as at 30 <sup>th</sup> of November 2018 Actual (%)	Physical Progress; Cumulative Status up to 31 <sup>st</sup> December 2018 (%)	
										Target (Revised )	Actual
KA 01	Sierra	1,756	17	75.12	9	-	-	8	94.61%	100.00 (100.00)%	95.00%
KA 02	Sierra	1,924	17	72.48	8	-	-	9	99.25%	100.00 (100.00)%	99.25%
KA 03	Edward and Christie.	2,097	16	68.45	5	-	-	11	98.50%	100.00 (100.00)%	98.70%
MA 01	KD Ebert ..	1,622	18	75.12	-	2	16	-	66.49%	100.00 (100.00)%	66.49% *
MA 02	Edward and Christie.	1,249	14	55.55	-	-	-	14	100.00%	100.00%	100.00%
MA 03	CML-MTD	1408	19	60.76	-	1	-	18	99.80%	100.00 (100.00)%	100.00%
NE 01	Sierra	2,298	14	72.40	11	-	-	3	75.20%	100.00 (100.00)%	76.10%
NE 02	Sierra	1,242	14	36.21	-	-	-	14	99.50%	100.00 (100.00)%	100.00%
NE 03	Sierra	2,070	15	66.12	12	-	-	3	93.13%	100.00 (99.42)%	93.48%
<b>Total/Avg.</b>		<b>15,666</b>	<b>144</b>	<b>582.21</b>	<b>45</b>	<b>3</b>	<b>16</b>	<b>80</b>	<b>91.83%</b>	<b>99.94%</b>	<b>92.11%</b>

*Note. Civil works of this contract have been temporary suspended from June 2018*

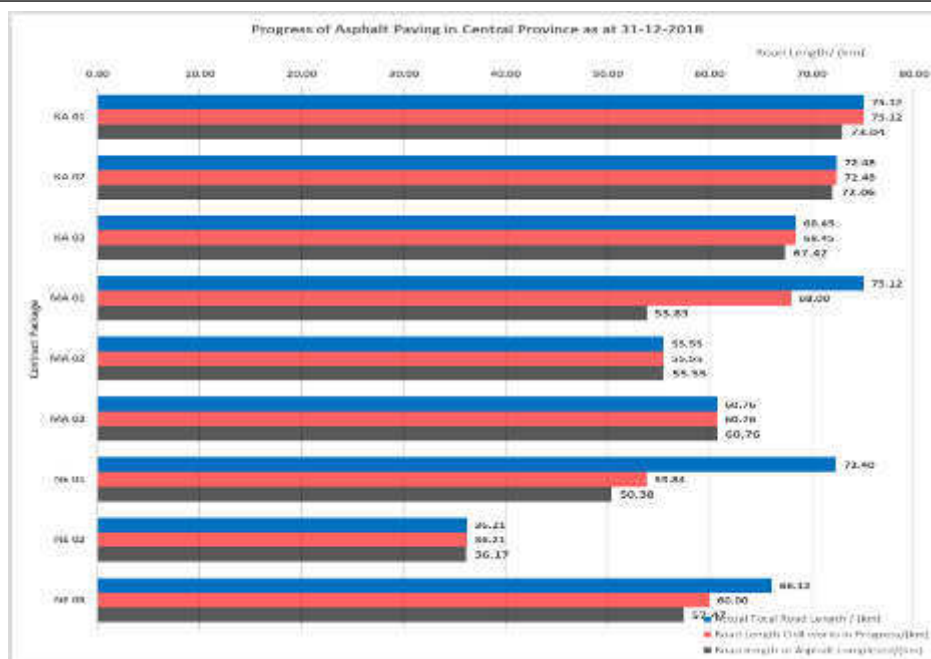
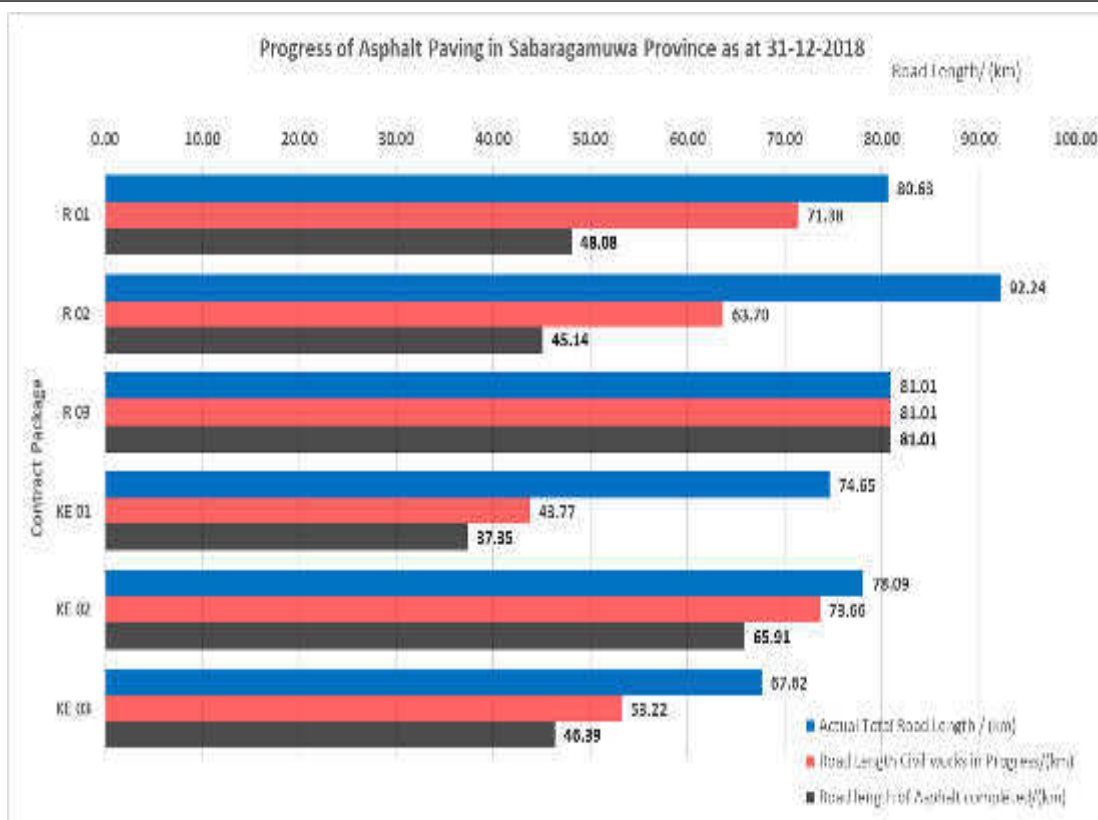


Figure 10 Physical progress of the civil works in the Central Province (as at 31 December 2018)

Table 2.3 Physical progress of the civil works in the Sabaragamuwa Province (as at 31 December 2018)

Package No.	Contractor	Accepted Contract Amount (Mn)	No. of Roads	Actual Total Road Length / (km)	No. of Roads Civil Works Started	No. of Roads Civil Works Not Started	No. of Roads in Slow Progress	No. of Roads Handed over (Up to 31 <sup>st</sup> of December 2018)	Physical Progress as at 30 <sup>th</sup> of November 2018 Actual (%)	Physical Progress; Cumulative Status up to 31 <sup>st</sup> December 2018 (%)	
										Target (Revised )	Actual
R 01	KD Ebert	2,022	12	80.63	-	5	7	-	64.54%	100.00 (100.00)%	64.54% *
R 02	KD Ebert	2,384	14	92.24	-	3	11	-	58.18%	100.00 (100.00)%	58.18% *
R 03	R.R. Construction	2,021	12	81.01	-	-	-	12	100.00%	100.00 (100.00)%	100.00%
KE 01	KD Ebert	1,973	17	74.65	-	4	13	-	53.18%	100.00 (100.00)%	53.18% *
KE 02	Nawaloka	1,817	21	78.09	16	1	-	4	83.22%	100.00 (93.76)%	85.92%
KE 03	Nawaloka	1,632	25	67.62	21	2	-	2	68.29%	100.00 (86.85)%	71.72%
Total/Avg.		11,849	101	474.24	37	15	31	18	71.24%	96.77%	72.26%

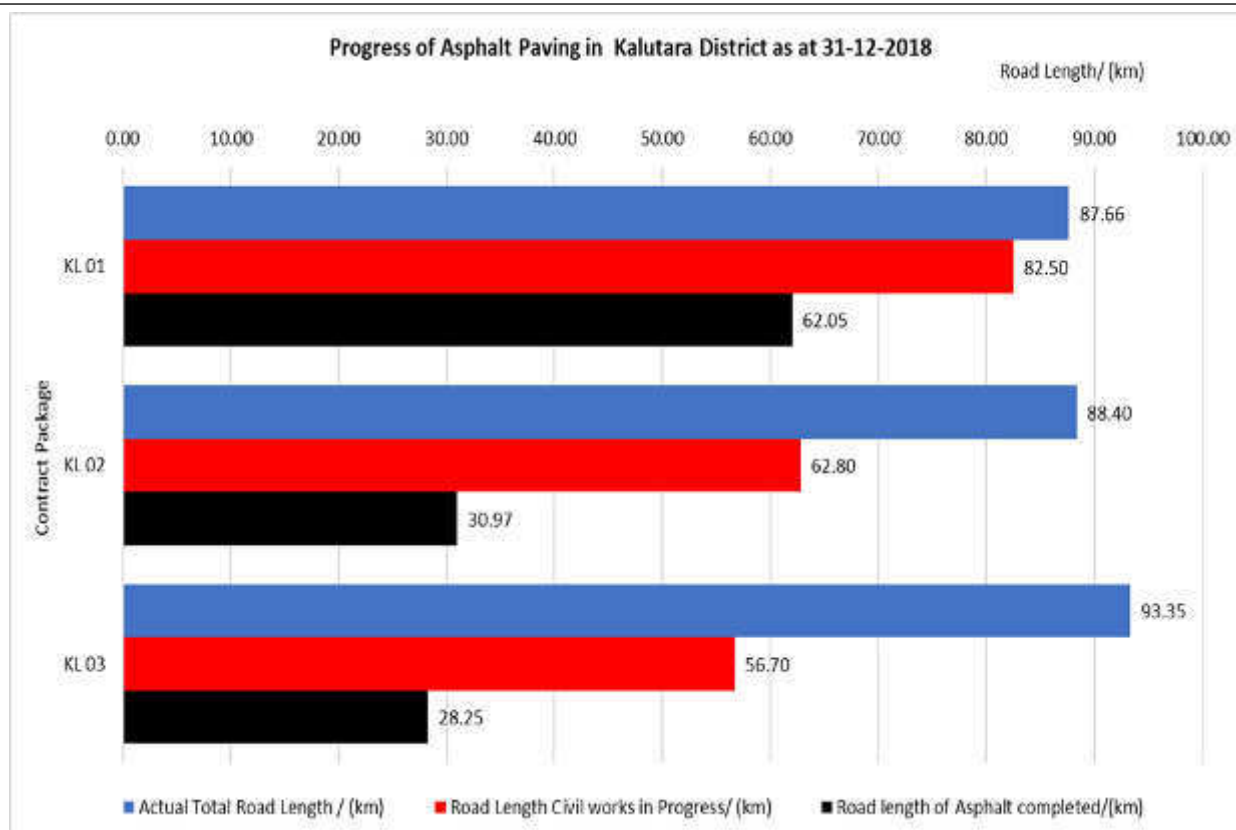
Note. Civil works of the R1& R2 contracts have been temporary suspended from June 2017 and those of KE1 from March 2018.



**Figure 11 Physical progress of the civil works in the Sabaragamuwa Province (as at 31 December 2018)**

**Table 2.4 Physical progress of the civil works in the Western Province (as at 31 December 2018)**

Package No.	Contractor	Accepted Contract Amount (Mn)	No. of Roads	Actual Total Road Length / (km)	No. of Roads Civil Works Started	No. of Roads Civil Works Not Started	No. of Roads In Slow Progress	No. of Roads Handed over (Up to 31 <sup>st</sup> of December 2018)	Physical Progress as at 30 <sup>th</sup> of November 2018 Actual (%)	Physical Progress; Cumulative Status up to 31 <sup>st</sup> December 2018 (%)	
										Target (Revised )	Actual
KL 01	MAGA	1,912	42	91.43	20	18	-	4	77.91%	100.00 (86.56)%	80.65%
KL 02	OPCL JV RCPL	1,811	19	88.40	8	10	-	1	31.84%	100.00 (100.00)%	32.06%
KL 03	OPCL JV RCPL	1,817	22	93.35	13	8	-	1	47.15%	100.00 (51.80)%	47.58%
Total/Avg.		5,540	83	273.18	41	36	-	6	52.30%	79.45%	53.43%



**Figure 12 Physical Progress of the Civil Works in the Western Province (As At 31 December 2018)**



### 3. COMPLIANCE WITH ENVIRONMENTAL SAFEGUARD REQUIREMENTS OF THE LOAN DOCUMENTS

Environmental safeguards requirements stipulated in the loan agreement (Tranche), updated FAM (March 2018) and EARF.

#### 3.1 Compliance with respect to provisions in the loan agreement

Sabaragamuwa province and Kalutara district are considered project 2 while Central province is considered as project 3 of Tranche 2 and in subsequent tranches. Requirements stipulated in the loan agreement of Tranche 4, have been or are being complied with as detailed in the below table 3.1

**Table 3.1 Compliance with the environmental safeguard requirements stipulated in the loan agreement**

Item/ Section/ Schedule in the loan agreement	Description	Status of compliance
Schedule 4 Conditions for award of contract	5. The Borrower shall not award any Works contract which involves environmental impacts until RDA has (a) obtained the final approval of the IEE from the CEA and (b) incorporated the relevant provisions of the EMP into the Works contract	Clearance from the CEA for project implementation has been obtained by RDA for the Central, Sabaragamuwa and Western Provinces. Standard EMPs developed at provincial level IEEs have been incorporated into the works contracts of the relevant provinces.
Schedule 5 Safeguards	2. The Borrower shall ensure, or cause RDA to ensure, that the preparation, design, construction, implementation, operation and decommissioning of the Project and all Project facilities comply with (a) all applicable laws and regulations of the Borrower relating to environment, health and safety, (b) the Environmental Safeguards as set out in ADB's Safeguard Policy Statement; (c) the EARF and IEE's (d) all measures and requirements set forth in a Safeguards Monitoring Report	These conditions are being followed by all the design and construction staff of the contractors. Staff of the PIC and PIC monitor whether the conditions are being followed by the staff of the contractors

Item/ Section/ Schedule in the loan agreement	Description	Status of compliance
Schedule 5 Safeguards-Related Provisions in Bidding Documents and Works Contracts	<p>6.The Borrower shall ensure, or cause RDA to ensure that all bidding documents contain provisions that require contractors to:</p> <p>(a) comply with the measures relevant to the contractor set forth in any safeguards document (including relevant IEEs, EMPs and road specific EMPs), and any corrective or preventative actions set forth in the Safeguards Monitoring Report;</p> <p>(b) make available a budget for all such safeguard measures; and</p> <p>(c) provide the Borrower with a written notice of any unanticipated environmental, resettlement or small ethnic community peoples risks or impacts that arise during construction, implementation or operation of the Project that were not considered in the IEEs, EMPs and any other safeguard plans.</p>	<p>To ensure the fulfilment of the conditions, the Borrower has included appropriate clauses in the agreement signed between RDA and contractors.</p>
Schedule 5 – Safeguards Monitoring and Reporting	<p>7, The Borrower shall do the following or cause RDA to do the following:</p> <p>(a) submit Annual Environmental Safeguards Monitoring Reports to ADB and disclose relevant information from such reports to affected persons promptly upon submission;</p> <p>(b) if any unanticipated environmental and/or social risks and impacts arise during construction, implementation or operation of the Project that were not considered in the IEEs, EMPs, and any safeguard documents, promptly inform ADB of the occurrence of such risks or impacts, with detailed description of the event and proposed corrective action plan.</p>	<p>The first annual Environmental Safeguard Monitoring Report for the period from January to December 2016 was submitted in March 2017. The second annual Environmental Safeguard Monitoring Report which was for the period from January to December 2017 was submitted in March 2018.</p> <p>Unanticipated environmental and/or social risks and impacts</p>

Item/ Section/ Schedule in the loan agreement	Description	Status of compliance
		have so far not arisen during the construction, implementation or operation of the project that were not considered in the IEEs, EMPs, and any safeguard documents
Loan Agreement (Ordinary Operations) numbered 3325-SRI Clause – 32	The environment component of Tranche 3 has been categorized as category B.	Three IEEs have been prepared by RDA for the Central, Sabaragamuwa and Western Provinces.

### 3.2 Compliance with the Requirements of the Environmental Assessment Review Framework (EARF)

As indicated in Table 3.2, selection, screening, categorization, impact assessments, project implementation, and monitoring of environmental safeguard requirements stipulated in the EARF have been or are being complied in accordance with the requirements of the Government of Sri Lanka (GoSL) and the ADB Safeguard Policy Statements (SPSs).

**Table 3.2 Compliance with the Environmental Assessment Review Framework (EARF)**

Item/ Section/ Schedule in EARF	Description	Status of compliance
<b>II, LEGAL FRAMEWORK AND INSTITUTIONAL CAPACITY</b>  A. GoSL Legal Framework on Environmental Safeguards	7. The National Environment Act (NEA) No. 47 is the key environmental policy framework which is administered through the Central Environment Authority (CEA) of the Ministry of Environment and Renewable Energy (ME & RE). NEA No. 47 was enacted in 1980 and NEA amendment Act No. 56 of 1988 stipulated the regulations for assessing and managing environmental impacts and obtaining the environmental clearance in a timely and systematic manner. The environmental clearance process is implemented	Environmental Clearances have been obtained by for projects 2 and 3

Item/ Section/ Schedule in EARF	Description	Status of compliance
	<p>through the designated Project Approving Agency (PAA) as prescribed by the Minister under Section 23 Y of the NEA. The procedure that should be followed for obtaining environmental clearance is described under section 23CC and 32 of the NEA.</p> <p>8. The environmental clearance process should be initiated by submitting the completed Basic Information Questionnaire (BIQ) to CEA with preliminary information about the project including exact locations of the project components, extent and environmental sensitivity related to project activities. Based on this CEA decides whether the project is a "Prescribed Project"2 or not and who the PAA will be for administering the IEE or EIA process to obtain environmental clearance if the proposed project is a prescribed project.</p> <p>9. The scope of the investment program includes rehabilitation and upgrading of existing rural and national roads with no widening. According to the Gazette Extra-Ordinary No. 772/22 of 24th June 1993 and subsequent amendments all rehabilitation works for existing highways and roads do not fall within the category of Prescribed Projects. Hence, it is likely that the that the project roads under the investment program will not be required to prepare an IEE or EIA for securing an environmental clearance.</p>	<p>Project roads or improvement works will not fall within the prescribed list of projects under NEA which require an environmental assessment as under the investment program the existing roads are only rehabilitated and improved within the existing road corridors.</p> <p>None of the project roads is adjacent to the boundary or inside a protected area. Hence no clearance is required from the Department of Wildlife Conservation (DWLC) and Forest Department</p> <p>However, two roads in the Kandy District are inside Hanthana Conservation Area where according to the gazette notification which declared Hanthana as a Conservation Area, road rehabilitation activities can be done only with the approval of the Hanthana Conservation Society chaired by the District Secretary of Kandy. Hence, RDA has obtained the</p>

Item/ Section/ Schedule in EARF	Description	Status of compliance
	<p><sup>2</sup> Under the NEA, a prescribed project means that the project requires a full Initial Environmental Examination or Environmental Impact Assessment (EIA) study depending on the TOR issued by CEA for securing the environmental clearance</p> <p>10 If a project road falls adjacent to the boundary or inside a protected area, necessary clearance will need to be sought from the Department of Wildlife Conservation (DWLC) and the Forest Department even if there will be no widening of the road ROW. Depending on the sensitivity of the protected area, the DWLC and Forest Department may require conduction of an IEE or EIA study for the respective road. No works are allowed in project roads falling inside Strict Nature Reserves</p> <p>15, The Project Implementation Unit (PIU) under RDA, MOHPS is responsible for overall conduction of environmental assessments, implementation and monitoring of environment safeguards for specific project roads under the investment program. Within RDA there is a separate unit, the Environment and Social Development Division (ESDD) to cover social and environment safeguards. The division is responsible for developing manuals and guidelines, providing assistance in conduction of proper safeguard assessments, and implementation and monitoring of environment and social safeguards in accordance with environmental policies of GoSL and donor agencies. However,</p>	<p>required approval from the Hanthana Conservation Society.</p> <p>All the conditions stipulated in the NEA and other related National Laws Regulations List provided in Annexure 1 are being followed by all of the design and construction staff of the contractor and PIC staff. PIC staff monitor to ensure that these conditions are fulfilled on ground by the contractor's staff (during construction works).</p> <p>An ESU within the PIUs have been appointed under the guidance of ESDD of the RDA. This safeguard team has one Social Safeguard Officer (SSO), two Social Safeguard Assistants (SSAs) for the Central Province, one ESO, one SSO and one SSA for the Sabaragamura Province and one SSO, and one ESA for the Western Province.</p>

Item/ Section/ Schedule in EARF	Description	Status of compliance
	<p>since ESDD is responsible for all projects under RDA and given the large scale of the investment program this division will not have adequate time and resources to implement and monitor safeguards for the investment program. Therefore, a separate safeguards team dedicated to the investment program will be created within the PIU for managing safeguards. ESDD will provide technical support and monitor the implementation of safeguards under the investment program on a biannual basis as necessary</p> <p>16 The safeguards team will comprise of sufficient social and environment safeguards officers as necessary to cover the quantum and geographic distribution of works in all provinces under the investment program. The safeguards team will be supported by a team of environmental consultants under the Project Implementation Consultants (PIC) for daily monitoring of EMP implementation and compilation of monitoring checklists and reports. Environmental assessments for succeeding tranche's will be carried out by a Survey and Preliminary Engineering (SAPE) team under RDA. A detailed safeguards training workshop will be conducted for the PIU, safeguards team, SAPE and PIC to clarify the roles and responsibilities of each party, method of consultation and record keeping and reporting requirements before the conduction of environmental assessment studies for each tranche.</p>	

Item/ Section/ Schedule in EARF	Description	Status of compliance
	<p>After the award of civil works contract and before the start of physical works another training workshop will be conducted for the PIU, safeguards team, PIC and contractor on roles and responsibilities of each party for EMP implementation and monitoring methods, record keeping and reporting requirements. Thereafter other subject specific or on the job training may be organized by the PIU on a need basis.</p>	
<p>III. ANTICIPATED ENVIRONMENTAL IMPACTS</p>	<p>24. During the construction phase activities such as removal and re-establishment of public utilities; removal of road side trees, mining of gravel and sand; quarrying of metal; transportation of construction materials; disposal of construction waste; establishment of construction material processing plants, storage yards, labor camps, vehicles and equipment service yards and other facilities will have to be implemented. These activities can cause several negative impacts on the local environment in the form of air pollution, water pollution. generation of noise, soil erosion, generation of solid waste, loss of vegetation and aesthetic beauty and safety issues as people and vehicles will still be using the road during construction. Mitigation measures that will be implemented to address these issues will include but not be limited to: wet spraying to control dust; limiting working hours to minimize disturbance; regular maintenance of construction vehicles and equipment; proper disposal of construction debris; maintenance of proper hygiene and</p>	<p>The EMAP submitted by each contract includes the possible impacts at specific locations and mitigation measures required for these impacts. The implementation of EMAP is a contractual requirement in the contract between RDA and the contractors.</p> <p>None of the roads in the Sabaragamuwa and Central Provinces and Kalutara District are inside or near protected areas such as national parks, wildlife sanctuaries or other forms of conservation areas.</p>

Item/ Section/ Schedule in EARF	Description	Status of compliance
	<p>safety standards and facilities in the camps and working areas; development and implementation of erosion control and silt management measures, compensatory afforestation and enforcement of road safety measures for local people and traffic</p> <p>25. If any of the roads fall inside or near protected areas such as national parks, wildlife sanctuaries or other forms of conservation areas, proper consultation will be held with the respective national and local wildlife authorities. To the extent possible all efforts will be made to include technical measures in the road design to minimize or mitigate negative impacts on wildlife and enhance habitat conditions or migratory pathways for wildlife</p>	
	<p>26. During the operation and maintenance phase minor physical works will still be implemented such as clearing drains, filling of potholes, maintaining saplings that were planted and others. The improved road conditions will result in increased number as well as speed of vehicles. This can cause an increase in accidents and other safety issues. Minor increase in greenhouse gas (GHG) emissions and noise can also be expected from the increased traffic. The contractor will be responsible to ensure that all road safety measures such as speed breakers, safety sigs and others are well maintained for a period of three years for the case of the rural roads and seven years for the case of the national roads. Compensatory afforestation is</p>	<p>Road safety audits have been carried out to ensure that contractors provide necessary designs and signage on road user safety.</p>



Item/ Section/ Schedule in EARF	Description	Status of compliance
	expected to offset the increased GHG emissions up to a certain extent. If noise levels exceed the prescribed standards the contractor will be responsible for implementing suitable mitigation measures such as construction of noise barriers and others.	
IV. ENVIRONMENTAL ASSESSMENT PROCEDURES C. Environmental Assessment and Environmental Management Plan	<p>33. For this investment Program, since there are a large number of short roads preparation of individual IEE's for each and every road will be difficult and time consuming. Hence one IEE report will be prepared per province based on information collected in the environment checklists.</p> <p>34. The environment checklists with annexes on trees, utility structures, community structures, strip plans and photographs will be completed for each end every road. Based on the completed environment checklists for each road including bridges, one IEE report will be prepared for each province. However, the report must clearly present information and issues that may be unique to a district or geographic area or project road. All sensitive issues identified in the environment checklist for each project road must be clearly documented in the IEE report. The IEE report will include one general or standard EMP that will cover all impacts and mitigation measures possible within the respective province. Contract package specific EMP's will be prepared by the contractor by referring to the standard EMP, road specific information in the environmental checklists and the detailed design (level 1 design).</p>	<p>IEEs were prepared by RDA on a provincial basis for the Central, Sabaragamuwa and Western Provinces.</p> <p>Environmental checklists were prepared for each road coming under Projects 2 and 3.</p> <p>During the reporting period, 18 EMAPs were submitted by contractors to PIC. PIC has accepted these EMAPs after reviewing them.</p>

Item/ Section/ Schedule in EARF	Description	Status of compliance
	<p>35. The province level draft IEE report including standard EMP will be prepared in accordance with Safeguard Requirement 1 of the SPS and submitted to ADB for review and approval in a timely manner to allow disclosure of the draft final report on the ADB website before the Management Review Meeting (MRM) or approval of the respective tranche (if there is no MRM). The road specific EMP prepared by the contractor will be reviewed and approved by the PIC and/or the PIU prior to the start of any physical works by the respective contractor</p>	
<p>V. Consultation, Information Disclosure and Grievance Redress Mechanism A. Public Consultation</p>	<p>37. The public consultation and information disclosure are an important part of the environmental safeguard requirements under ADB SPS (2009). In addition, the NEA of GoSL also considers stakeholder engagement as a key element for successful management of environmental impacts.</p> <p>38. Meaningful public consultations will be held early on and continuously throughout the project development stage to allow the incorporation of relevant views of the stakeholders in the final project road design, mitigation measures, implementation issues, and enhance the distribution of benefits. Stakeholders will include project beneficiaries, local affected people, government bodies, and non-governmental organizations. The consultations must encourage participation of women and vulnerable groups (handicapped people, senior</p>	<p>An effective public consultation process was implemented during the project design stage, preparation of the IEE reports and environmental checklists and transect walks.</p> <p>Public consultation also was done during joint inspections by PIU, PIC and contractors for all roads before construction (during initial awareness meetings).</p>

Item/ Section/ Schedule in EARF	Description	Status of compliance
	<p>citizens, school children) and engage as many stakeholders as possible.</p> <p>39. Consultations will be carried out in an environment free of influences and will be done during conduction of transect walk while completing the environment checklists and/or through focus group discussions and/or household level or key person interviews which will start with the description of the project road design and initial identification of potential impacts. Feedback and recommendations received during the consultations will be addressed and where relevant incorporated in the environmental assessment and EMP. These consultations must be completed before finalization of the respective Periodic Financing Request (PFR) and all proceedings documented clearly in the IEE report</p>	<p>Complied under the road packages of PIC03.</p>
<b>B. Information Disclosure</b>	<p>41. According to the requirements of the ADB SPS, for environment category B project roads the respective draft IEE will be disclosed before the Management Review Meeting (MRM) or equivalent meeting or approval of the respective tranche, if there is no MRM. Signboards with project information including details on nature of construction work, road length, construction period, name of contractor, contract sum and contact information for reporting complains or grievances will be posted in three languages (Sinhala, Tamil and English) for rural roads. For the national (OPRC) roads there will be sign boards on</p>	<p>Complied for all provinces coming under PIC03.</p>

Item/ Section/ Schedule in EARF	Description	Status of compliance
	<p>period of works and contact information for reporting complaints or grievances in three languages.</p> <p>42. During project implementation, annual environmental monitoring reports will be prepared per province and submitted to ADB for disclosure on the ADB website.</p>	<p>This report is the third annual report of PIC03 on environmental safeguard compliance monitoring.</p>
C. Grievance redress mechanism	<p>43. Grievances from the affected people on social and environmental issues during project implementation will be addressed mainly through the existing local administrative system. Depending on the nature and significance of the grievances or complaints, grievances will be addressed at three levels. The first will be at the grass roots level where complaints will be directly received and addressed by the contractor, PIC or PIU representative on site. Grievances which are simple but still cannot be addressed at the grass roots level will be addressed at the Grama Niladari (GN) level. More complex grievances which cannot be addressed at the GN level will be addressed at the Divisional Secretariat (DS) level. There will be a Grievance Redress Committee (GRC) at the GN and DS levels</p>	<p>A grievance redress mechanism is being implemented successfully at all project roads coming under PIC03.</p>

### 3.3 Compliance with the Environmental Requirements of the Project Facility Administration Manual (FAM)

The requirements stipulated in the updated Facility Administration Manual (FAM) of October 2015 for the iRoad Program have been or are being fulfilled. The details of each item are summarized in Table 3.3.

**Table 3.3 -Compliance with the Facility Administration Manual (FAM) (Environmental Safeguards)**

Item/ Section/ Schedule in the FAM	Description	Status of Compliance
VII Safeguards B. Environment	51. <b>Tranche 2.</b> The scope of works under Tranche 2 involves rehabilitation of existing rural and national roads. Some of the national roads will require only routine maintenance work to keep the roads in good riding condition. Project roads inside unclassified forestlands, forest plantations, and forest reserves may be included in the project provided no widening of roads will take place and subject to the approval of the Department of Forest. No project roads will be located inside legally protected areas or critical habitat such as strict nature reserves, wildlife sanctuaries, national parks, and nature reserves. No project road will be allowed inside the boundaries, including the prescribed buffer zone, of internationally or nationally recognized heritage and archaeological sites. Finally, based on the environmental checklist, no road shall be included in the project where the presence of threatened or critically threatened or endangered species has been established. Therefore, Tranche 2 has been categorized as "B" in accordance with ADB SPS. Since there is a large number of short roads under the investment program, the preparation of individual initial environmental examinations (IEEs) for each and every road will be difficult and time consuming. Hence a consolidated province- level IEE and one covering all	A condition for compliance with the environmental requirement of the Project has been incorporated into contract agreements.  Environmental checklists for each road of the Project have been prepared.  An EMAP has been prepared based on the standard EMP of contract documents and including site-specific possible environmental impacts. Mitigation measures were submitted by 18 contractors to the PIC within the project reporting period and were accepted by the PIC.

Item/ Section/ Schedule in the FAM	Description	Status of Compliance
	<p>RMC roads have been prepared for all roads in the Kandy, Matale and Nuwara Eliya Districts of Central Province, Anuradhapura and Polonnaruwa Districts of North Central Province, Puttalam and Kurunegala Districts of North West Province, Ratnapura and Kegalle Districts of Sabaragamuwa Province, and Kalutara District of Western Province. The IEE reports were prepared based on completed road-specific environmental checklists with baseline data, public consultations and literature reviews. All project roads were selected based on the screening criteria provided in the Environmental Assessment and Review Framework (EA</p> <p>52. <b>Tranche 3.</b> Tranche 3 has been categorized as “ B” consistent with Tranches 1 and 2.</p>	
	<p>55. The EMOP is a plan for monitoring various environment quality parameters and checking the effectiveness of the EMP. It comprises activities on testing the quality of air, water, and noise through laboratory tests and physical monitoring of problems of soil erosion, tree plantations and habitat enhancement activities carried out and occupational health and safety issues. Quality testing of air, water and noise will be outsourced by the contractor to recognized and approved laboratories. The PIC will conduct monthly monitoring of EMP and EMOP implementation and review monthly monitoring records maintained by the contractors. The Environment and Social Development Division (ESDD) will also conduct onsite monitoring and review of documents at least biannually and provide</p>	<p>The implementation of the EMAP by contractors is being monitored monthly by PIC staff and PIU staff by reviewing the progress reports and by conducting field inspections randomly or at selected worksites.</p> <p>Representatives of ESDD and ADBCSD/SG Specialist also have conducted several field inspections during the reporting period.</p>



Item/ Section/ Schedule in the FAM	Description	Status of Compliance
	technical advice to enhance EMP implementation as necessary	
	56. All required clearances, permits and licenses as applicable will be obtained by the Project Implementation Unit (PIU) before the start of construction works in the respective road sections. Permits, licenses etc., for activities such as operation of asphalt plants, quarries, borrow areas etc., must be obtained by the contractor before the implementation of the respective construction activity.	<p>Clearance from the CEA has been obtained by RDA for each province for the implementation of project activities (Central, Sabaragamuwa and Western Provinces)</p> <p>Permits, licenses etc., for activities such as the operation of asphalt plants, quarries, borrow areas etc., are obtained by the contractor before the implementation of the respective construction activities.</p> <p>PIC staff and PIU staff continuously monitor the availability and validity of these permits and licenses obtained by the relevant contractors.</p>

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## 4. MONITORING OF ENVIRONMENTAL SAFEGUARD COMPLIANCE AT FIELD LEVEL

### 4.1 Documents to be submitted by the Contractors

According to the contract agreements and EARF, contractors are required to submit EAMP, EMCs and monthly progress reports. They are also required to obtain approvals, licenses and permits for road construction activities, yards, quarries and material extraction pits.

The status of the submission of EMAPs, SSEMAPs and EMCs by the contractors and acceptance given by PIC are listed in Table 4.1.

**Table 4.1 Status of the submission of EMAPs, SSEMAPs and EMCs by Contractors (as at 31 December 2018)**

Package	EMAP submission		SSEMAP submission		EMC submission									
					Preconstruction		25%		50%		75%		100%	
	Submitted by contractor	Accepted by PIC	Submitted by contractor	Accepted by PIC	Submitted by contractor	Accepted by PIC	Submitted by Contractor	Accepted by PIC	Submitted by contractor	Accepted by PIC	Submitted by Contractor	Accepted by PIC	Submitted by Contractor	Accepted by PIC
KA1	Yes	Yes	17	17	17	17	17	17	17	17	17	17	6	6
KA2	Yes	Yes	17	17	17	17	17	17	17	17	17	17	10	10
KA3	Yes	Yes	16	16	16	16	15	15	16	16	16	16	13	13
MA1	Yes	Yes	7	7	14	14	11	11	6	6	6	6	3	3
MA2	Yes	Yes	3	3	13	13	13	13	14	14	14	14	13	13
MA3	Yes	Yes	3	3	18	18	18	18	18	18	18	18	18	18
NE1	Yes	Yes	13	13	13	13	10	10	9	9	8	8	4	4
NE2	Yes	Yes	14	14	15	15	14	14	14	14	14	14	11	11
NE3	Yes	Yes	15	15	15	15	12	12	11	11	7	7	4	4
R1	Yes	Yes	9	7	11	11	8	8	7	7	5	5		
R2	Yes	Yes	9	9	12	12	9	9	6	6	2	2		
R3	Yes	Yes	6	6	12	12	12	12	10	10	10	10	9	9
KE1	Yes	Yes	12	12	14	14	7	7	6	6	3	3		
KE2	Yes	Yes	16	16	14	14	7	7	7	7	4	4	2	2
KE3	Yes	Yes	21	21	18	18	10	10	12	12	7	7	3	3
KL1	Yes	Yes	31	31	30	30	21	21	6	6	7	7	1	1
KL2	Yes	Yes	5	5	4	4	1	1	1	1	1	1	1	1
KL3	Yes	Yes	6	6	6	6	6	6	3	3	2	2	1	1
<b>Total</b>			<b>220</b>	<b>218</b>	<b>259</b>	<b>259</b>	<b>208</b>	<b>208</b>	<b>180</b>	<b>180</b>	<b>158</b>	<b>158</b>	<b>99</b>	<b>99</b>

#### **4.1.1 Licenses and Approvals**

Section II of EARF, Legal Framework and Institutional Capacity, (Para 12, Table 3) stipulates in its Table 3 in Page No. 7, the approvals required for the investment program.

A complex approval process has to be followed by the contractors to obtain approval for borrow materials. The status of the licenses and approvals of the contracts in the PIC03 as at 31 December 2018 are given in Annexure 1.

#### **4.1.2 Submission of Monthly Environmental Progress Reports**

According to Clause 4.21 of the conditions of contract, each contractor has to submit a progress report every month. An environmental progress monitoring report is also included in this construction work progress report submitted by each contractor monthly. This monthly progress report also includes a summary of the weather report, a summary of road construction activities, environmental issues identified and mitigation measures taken, status of submission of EMAP, SSEMAP and EMC, status of tree removals and tree planting, status of licenses and approvals and details of the yards. A sample of the monthly progress report submitted by the contractors is given in Annexure 2.

#### **4.2 Grievance Redress Mechanism (GRM) of the Project**

Section C of EARF, Section 6.1 of CPF and Section vi of RF state the need to handle public grievances, especially during the project implementing period of the iRoad Program.

A Grievance Redress Mechanism (GRM) is necessary to support the general public in resolving their problems that arise from project activities, through mutual understanding and consensus with relevant parties. Most of these problems such as the loss of access or emission of dust, although temporary in nature, could become a nuisance if they are not attended to promptly by the civil works contractors.

The progress made in establishing GRCs at GN and DS level in PIC03 up to 31 December 2018 are summarized in Table 4.2.

**Table 4.2 Status of establishing GRCs at DS and GN Level in the provinces coming under PIC03 (as at 31 December 2018)**

District	Package	Total number of DSDs	DSD level		Total number of GNDs	GND level	
			Already set up	To be set up		Already set up	To be set up
Matale	MA1	3	3	0	34	34	0
	MA2	3	3	0	29	29	0
	MA3	5	5	0	19	19	0
Sub total		11	11	0	82	82	0
Kandy	KA1	6	6	0	57	57	0
	KA2	6	6	0	20	20	0
	KA3	7	7	0	56	56	0
Sub total		19	19	0	133	133	0
Nuwara Eliya	NE1	2	2	0	14	14	0
	NE2	2	2	0	18	18	0
	NE3	2	2	0	15	15	0
Sub total		6	6	0	47	47	0
Kegalle	KE1	4	4	0	26	23	3
	KE2	3	3	0	38	38	0
	KE3	4	4	0	50	50	0
Sub total		11	11	0	114	108	3
Ratnapura	R1	6	6	0	31	31	0
	R2	8	8	0	30	30	0
	R3	6	6	0	30	30	0
Sub total		20	20	0	91	91	0
Kalutara	KL1	7	7	0	32	32	0
	KL2	4	4	0	42	42	0
	KL3	3	3	0	22	22	0
Sub total		14	14	0	96	96	0
<b>Total</b>		<b>81</b>	<b>81</b>	<b>0</b>	<b>563</b>	<b>560</b>	<b>3</b>

### 4.3 Public Requests, Suggestions and Complaints Handling Process

iRoad Program has handled complaints and environmental and social issues as stated in Section C of EARF and Section VI of Resettlement Framework (RF).

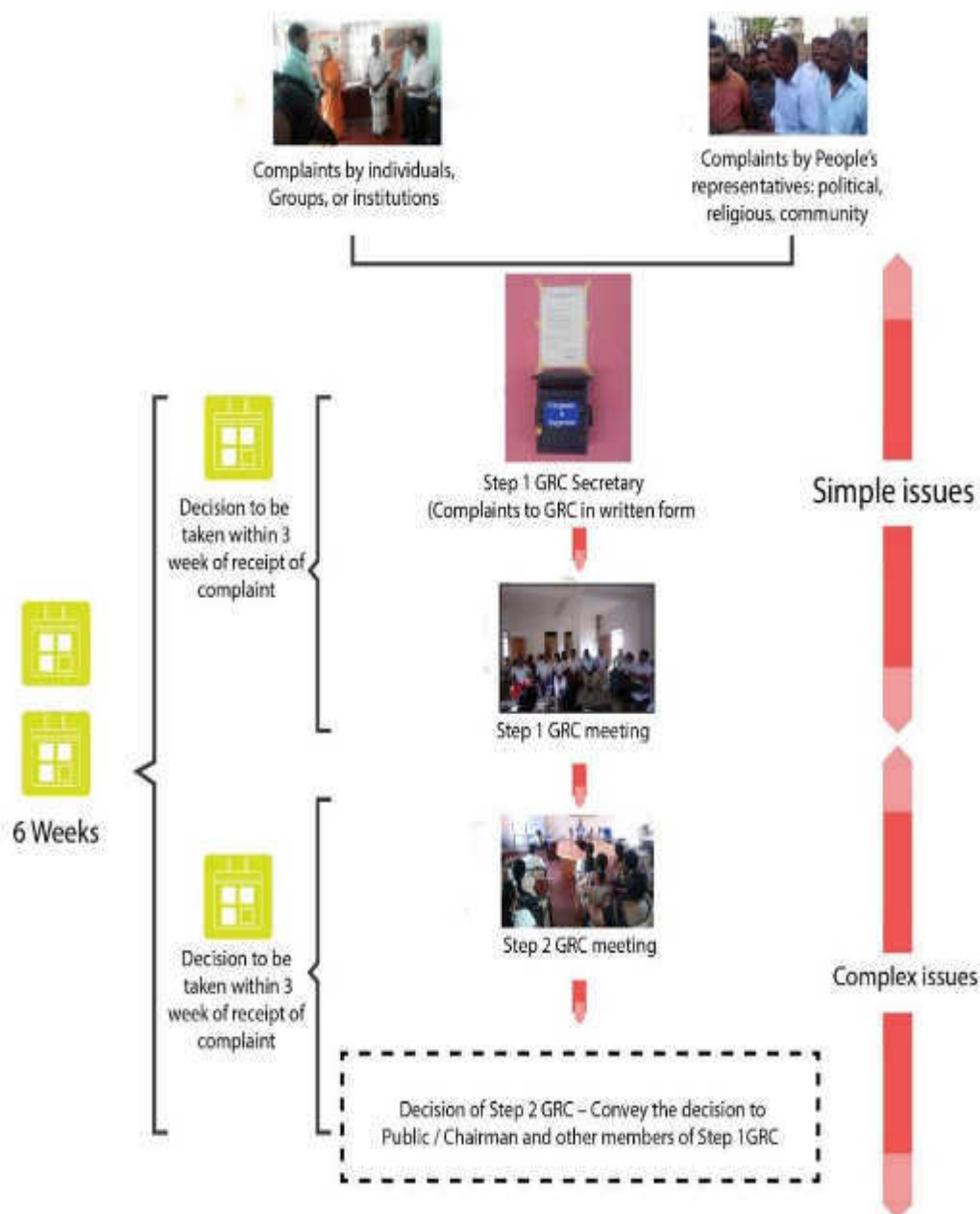
A three level GRM as indicated below was adopted by PIC03 to address public requests, suggestions and complaints

- Level one: Grass root level at which requests and suggestions are received directly and addressed by the representatives of the contractor, PIC and PIU.
- Level two: Grievances that are although simple but those that cannot be addressed at the grass root level are addressed at this level by the GRC chaired by the GN of the area and coordinated by the PE (PIU) of the package.
- Level three: At this level, GRCs are established to solve complex grievances which cannot be addressed by GRCs at GN level. These GRCs are chaired by the DS of the area and coordinated by the PE (PIU) of the package.

The decision on any complaint received by the GRCs at Level one will be taken within 3 weeks of receipt of the complaint. The GRCs at Level two will also take decisions within the same period and convey the decisions to the complainer.

A register to record the public requests, suggestions and complaints which is common to all the contractors is maintained by each ESO of the contractors. Figure 13 shows the process of handling public requests, suggestions and complaints through the GRM.





**Figure 13 Public requests, suggestions and complaints handling process through the GRM**

## 4.4 Environmental Safeguard Compliance Field Monitoring

Field monitoring of environmental safeguard compliance is carried out by the ADB Mission, PIC, and PIU. During the reporting period, ADB and the CSD/ SG Specialist (TA8473) also participated many times in the monitoring of environmental safeguard compliance at field level.

### 4.4.1 Field Inspection by the ADB Mission

Field inspections were conducted by the ADB Mission jointly with PIC, PIU and contractor's staff to review the overall progress of the project including the implementation of safeguard activities. Details of these inspections are given in Table 4.3

**Table 4.3 Details of the inspections made by the ADB Mission**

Date	Places	Description of the event
1 October 2018	TL office  Road ID. No. 47 and 48 in the NE3 Package	<ul style="list-style-type: none"> <li>• Meeting with the PIU, PIC and contractor's staff.</li> <li>• Inspection of road construction sites including stock yards and disposal yards. (Images 4.1 and 4.4)</li> <li>• Interviews with the beneficiaries of the rural roads.</li> </ul>
2 October 2018	Road ID. No. 30 in the NE2 Package and Road ID No. 28 in the KA2 Package  Road ID. No.37 & 51 in the KA3 Package	<ul style="list-style-type: none"> <li>• Inspection of the road during the PBM period. (Images 4.2 and 4.3)</li> <li>• Inspection of road construction sites including stock yards and disposal yards.</li> <li>• Interviews with the beneficiaries of the rural roads.</li> </ul>



**Images 4.1 and 4.2 Field inspection conducted by the ADB Mission on 1 October 2018 of Road ID No.47 in the NE3 Package and Road ID No 3 in the NE2 Package**



**Images 4.3 and 4.4 Field inspection conducted by the ADB mission on 2 October 2018 of Road ID. No. 30 in the NE2 Package**

#### 4.4.2 Field inspection by ADB CSD/ SG Specialist and Representatives of ESDD

ADB CSD / SG Specialist and the representatives of ESDD jointly with PIC, PIU and contractor's staff conducted field Inspections to monitor environmental safeguard compliance during the reporting period. A meeting was conducted at the end of each field inspection by ADB, SCD/SG Specialist with PIC, PIU and contractor's staff to discuss the observations made during the field inspection. Details of the key field inspections conducted by the ADB SCD/SG Specialist jointly with PIC, PIU and contractor's representatives are given in Table 4.4.

**Table 4.4 Details of the key field inspections conducted by ADB SCD/SG Specialist jointly with PIC, PIU and contractor's representatives**

Date	Places	Description of the event
23 February 2018	Road ID. No. 82 in the KL3 Package	<ul style="list-style-type: none"> <li>• Inspection of road construction sites including stock yards and disposal yards</li> <li>• Interviews with beneficiaries living along the rural roads</li> <li>• Inspection of locations related to public complaints</li> </ul>
18 April 2018	Road ID. No. 11 in the R1 Package and Road ID. No. 3 in the KE1 Package	<ul style="list-style-type: none"> <li>• Inspection of road construction sites including stock yards and disposal yards</li> <li>• Interviews with beneficiaries living along the rural roads.</li> </ul>
25 April 2018	Road ID. Nos. 7 and 10 in the NE1 Package (Image)	<ul style="list-style-type: none"> <li>• Inspection of road construction sites including stock yards and disposal yards (Images 4.5 and 4.6)</li> </ul>

Date	Places	Description of the event
		<ul style="list-style-type: none"> <li>Interviews with beneficiaries living along the rural roads</li> </ul>
28 May 2018	Road ID. Nos. 64 and 66 in the KL1 Package and Road ID. Nos. 20 and 82 in the KL3 Package	<ul style="list-style-type: none"> <li>Inspection of road construction sites (Images 4.7 and 4.8)</li> <li>Interviews with beneficiaries living along the rural roads</li> </ul>
30 May 2018	Road ID. Nos. 51 and 34 in the KL2 Package	<ul style="list-style-type: none"> <li>Interviews with beneficiaries living along the rural roads (Images 4.9 and 4.10)</li> <li>Conducting meetings with all parties concerned (PIU, PIC and contractor).</li> </ul>
20 August 2018	Road ID. Nos. 63,12 and 15 in the KL1 Package	<ul style="list-style-type: none"> <li>Inspection of road construction sites</li> <li>Interviews with beneficiaries living along the rural roads.</li> <li>Inspection of locations related to public complaints</li> </ul>
21 August 2018	Road ID. No. 53 in the KL2 Package and Road ID. No. 20 in the KL3 Package	<ul style="list-style-type: none"> <li>Inspection of road construction sites (Images 4.11 and 4.12)</li> <li>Interviews with beneficiaries living along the rural roads</li> <li>Inspection of locations related to public complaints</li> </ul>
12 September 2018	Road ID. No.23 in the R2 Package and Road ID.No.9 in the KE1 Package	<ul style="list-style-type: none"> <li>Inspection of road construction sites</li> <li>Interviews with beneficiaries living along the rural roads</li> <li>Inspection of locations related to public complaints</li> </ul>
13 September 2018	Road ID. No.70 in the KE1 Package	<ul style="list-style-type: none"> <li>Inspection of road construction sites (Images 4.13 and 4.14)</li> <li>Interviews with beneficiaries living along the rural roads</li> <li>Inspection of locations related to public complaints</li> </ul>
14 September 2018	Road ID No.36 in the KE2 Package and Road ID. No.28 in the KE3 Package	<ul style="list-style-type: none"> <li>Inspection of road construction sites including stock yards and disposal yards (Images 4.15 and 4.16)</li> <li>Interviews with beneficiaries living along the rural roads</li> </ul>





**Images 4.5 and 4.6 Field inspection conducted by ADB, CSD/SG Specialist on 25 April 2018 of Road ID. No. 08 in the NE01 Package**



**Images 4.7 and 4.8 Field inspection conducted by ADB, CSD/SG Specialist on 28 May 2018 of Road ID. Nos. 63 and 82 in the KL03 Package**



**Images 4.9 and 4.10 Field inspection conducted by ADB, CSD/SG Specialist on 30 May 2018 of Road ID. No. 51 in the KL02 Package and the meeting with all the parties (PIU, PIC and contractor)**



**Images 4.11 and 4.12 Field inspection conducted by ADB, CSD/SG Specialist on 20 August 2018 of Road ID. No. 63 in the KL01 Package and on 21 August 2018 of Road ID. No. 52 in the KL02 Package**



**Images 4.13 and 4.14 Field inspection conducted by ADB CSD/SG Specialist on 12 September 2018 of Road ID. No. 23 in the R2 Package and Road ID. No. 70 in the KE 1 Package on 13 September 2018**



**Images 4.15 and 4.16 Field inspection conducted by ADB CSD/SG Specialist on 14 September 2018 of Road ID. No. 36 in the KE2 Package, and Road ID. No. 28 in the KE3 Package**



#### 4.4.3 Field Monitoring of Environmental Safeguard Compliance by PIC and PIU staff

Environmental Specialist & Social and Environmental Development Assistants of PIC, Environmental Safeguards Officer and Environmental Safeguards Assistants of PIU jointly/ separately conducted field inspections of road construction sites / plants /yards and material excavation sites randomly or otherwise in accordance with the requirements. Monitoring environmental safeguard compliance, inspecting environmental issues that have arisen in the field, checking EMC and verifying information of contractors' monthly environmental monitoring reports were done during these field visits.



**Images 4.17 and 4.18 Educating Road Side Community on Safeguards Policies of iRoad by ES PIC03 at Road ID. No. 24 in the KL3 Package on 23 April 2018 and field inspection by ES PIC03 of Road ID. No. 51 in the KL2 Package on 28 March 2018**



**Images 4.19 and 4.20 NE1 drainage system discharging untreated waste water from the Rikillagaskada Hospital to the road (Road ID. No.11) and educating the Medical Superintendent of the Hospital by ES of PIC03 on 1 October 2018 on how to avoid the situation through the introduction of a proper waste water treatment system**

#### 4.4.4 Site-specific Monitoring of Environmental Safeguard Compliance (Online)

Training workshops on the online system for site-specific environmental monitoring were conducted by Dr. K. M. P. S. Bandara of Focal Point (Natural Resource & Environmental). The details of these training workshops are given in Table 4.5. During the workshops, field implementation of the online system for site-specific environmental monitoring was conducted in November 2018 at two roads in each district as a trial. This monitoring system will be implemented once in two months in these roads. The list of roads where online site-specific environmental monitoring system was practiced in November 2018 is given in Table 4.6. The report on these online site-specific monitoring is given in Annexure 3.

**Table 4.5: Details of the training workshops conducted by Dr. K. M. P.S. Bandara of Focal Point (Natural Resource & Environmental) ADB SRM to introduce the Online Site-specific Environmental Monitoring System**

Date	Place	Provinces	Participants	
			Organiza tion	Designation
7 August 2018	ADB SLRM Sri Lankan office (Images 4.19 and 4.20)	Sabaragamuwa Central Western	PIU  PIC	Environmental Safeguards Officers Social Safeguards Officers Environmental Specialists Assistant Resident Engineers
2 and 3 November 2018	Kandy (Images 4.21 and 4.22)	Sabaragamuwa Central Western	PIU  PIC	Project Director (CP) Social Safeguards Officers Project Engineers Team Leader Resident Engineers Assistant Resident Engineers Construction Engineers
27 and 28 November 2018	Kegalle (Images 4.23 and 4.24)	Sabaragamuwa Central Western	PIU  PIC	Project Director (SG) Deputy Project Director (WP) Project Engineers Environmental Safeguards Officer Environmental Specialist Social/Gender /Resettlement Specialist Resident Engineers Assistant Resident Engineers Construction Engineer



**Images 4.21 and 4.22 Conducting training workshops on the online system for site-specific environmental monitoring on 7 August 2018 at ADB SLRM**



**Images 4.23 and 4.24 Conducting training workshops on the online system for site-specific environmental monitoring and the Team Leader addressing the participants of the training workshops on 1 November 2018 in Kandy**



**Images 4.25 and 4.26 Conducting training workshops on the online system for site-specific environmental monitoring on 26 and 27 November 2018 at Kegalle**



**Table 4.6: List of roads where Online Site-specific Environmental Monitoring System was practiced in November and December 2018**

District	Package	Road No.	Road name
Kandy	KA3	05 06	Ogastawatta – Wajirarama - Udaperadeniya Road Mahakanda Junction Mobre Samadi Mawatha via Sarasavigama Road
Kegalle	KE 3	30 66	Korahetta Meeduma Vidyalaya Damubulla Clinic Center – Rambukkana - Dobemada Road Randeniya - Graselin - Janapadaya -Dimbulgamuwa Road
Nuwara Eliya	NE1 NE3	04 43	Udupussallawa-Kuruppanawella-Meepanawa Road Hapugasthalawa - Halgolla Road
Kalutara	KL1 KL1	15 68	Wilpatha to Magurugoda via Thalliyadda Road Paraduwa Bogaha Junction to Gunagoda Road

## 5. ENVIRONMENTAL ISSUES OBSERVED AND THE STATUS OF THEIR COMPLIANCE

Contractors had clearly included in their EMAPs, the impacts that project activities and migratory actions could have on the environment. Therefore, it was possible to mitigate most of these environmental impacts in the ongoing project. Contractor's ESO, PIC staff and PIU staff continued to monitor the environmental compliance and the public also assisted in adopting environmental best practices and issues related to road construction. The impacts observed and the mitigation measures adopted are discussed in Section 5 with examples.

### 5.1 Environmental Issues that were observed by the Contractor's Staff / Reported by the Public and the Status of their Compliance

Environmental issues either observed by the contractor's staff or reported by the public were rectified by the contractor's staff at field level. PIC staff as and when required issued the instructions required to rectify these environmental issues (especially those issues that could not be mitigated by adopting the standard practices given in the EMAPs). The contractors stated the actions they took in their monthly progress reports. During the reporting period, most of the environmental and social officers of the contractors left their posts and this has had a negative impact on the implementation of activities related to environmental safeguards. PIC staff had to undergo many difficulties in collecting information related to mitigation activities undertaken by the contractors.

Tables 5.1.1 to 5.1.13 present a summary of the environmental issues observed by the contractor's staff / reported by the public during the reporting period and mitigation measures taken by the contractors. Annexure 4 gives the details.

**Table 5.1.1 Environmental impacts observed during the reporting period and mitigation measures taken by the MA2 Contractor in the Matale District**

Road No	Environmental Issue observed	Mitigation measure/s taken by the contractor
All roads	<ol style="list-style-type: none"> <li>1. Spread of dust</li> <li>2. Soil erosion at the embankment and shoulders</li> </ol>	<ol style="list-style-type: none"> <li>1. Watering of the roads (Image 5.1.1)</li> <li>2. Construction of hard shoulders</li> <li>3. Turfing (Image 5.1.2)</li> <li>4. Construction of a L drain (Image 5.1.3)</li> </ol>



**Image 5.1.1 Watering Road No. 9, CH:0 +210 in the MA 2 Package for dust control**



**Image 5.1.2 Turfing Road No 53, CH: 1+780 in the MA 2 Package for erosion control**



**Image 5.1.3 Hard shoulder and L drain of the Road No 52, CH:0+090 in the MA 2 Package constructed for erosion control**

**Table 5.1.2 Environmental impacts observed during the reporting period and mitigation measures taken by the KA 01 Contractor in the Kandy District**

Road No.	Environmental issue observed	Mitigation measure/s taken by the contractor
1,2,3,4,4A,32,36 41,42,43,52,53	1. Spread of dust 2. Soil erosion	1. Watering of the roads (5.1.11) 2. Construction of a hard shoulder (Image 5.1.4 and 5.1.12) 3. Turfing (Image 5.1.5, 5.2.6,5.2.7,5.2.8,5.2.9 and 5.2.10) 4. Covering of material transport vehicles



**Image 5.1.4 Hard solder for erosion control at Road No 41 at CH: 0+550 in the KA1 Package**



**Image 5.1.5 Turfing for erosion control at Road No 43 at CH: 0+320 in the KA1 Package**



**Image 5.1.6 Turfing for erosion control at Road No 43 at CH: 3+300 in the KA1 Package**





**Image 5.1.7 Turfing for erosion control at Road No 4 at 3.400 in the KA1 Package**



**Image 5.1.8 Turfing for erosion control at Road No 41, 1+910-LHS in the KA1 Package**



**Image 5.1.9 Turfing for erosion control at Road No.41 in the KA1 Package**



**Image 5.1.10 Turfing for erosion control at Road No.41 in the KA1 Package**



**Image 5.1.11 Watering for dust control at Road No 1 in the KA1 Package**



**Image 5.1.12 Hard solder for erosion control at Road No 43 at 3.350 in the KA1 Package**

**Table 5.1.3 Environmental impacts observed during the reporting period and mitigation measures taken by the KA 02 Contractor in the Kandy District**

Road No.	Environmental Issue observed	Mitigation measure/s taken by the contractor
14,15,28,26,25,17,18,27,19, 23,20,24,29,30,	<ol style="list-style-type: none"> <li>1. Air pollution</li> <li>2. Disturbance created to flora and fauna</li> <li>3. Soil erosion</li> <li>4. Water pollution</li> <li>5. Disturbance created to agricultural properties</li> </ol>	<ol style="list-style-type: none"> <li>1. Material transport drivers advised to maintain their vehicle speeds at the minimum level.</li> <li>2. Site clearing done only within the right-of-way.</li> <li>3. Trees which were within the road corridor removed.</li> <li>4. Culvert clearance.</li> <li>5. Drains &amp; culverts cleaned.</li> <li>6. Silt was removed and the drainage path cleaned.</li> </ol>

**Table 5.1.4 Environmental impacts observed during the reporting period and mitigation measures taken by the KA 03 Contractor in the Kandy District**

Road No	Environmental Issue observed	Mitigation measure/s taken by contractor
37,39, 05 ,06,09, 11, 49 A ,40,50 and 51	<ol style="list-style-type: none"> <li>1. Soil erosion at the disposal site and stock yards</li> <li>2. Erosion of shoulders and embankments</li> <li>3. Dust generation</li> </ol>	<ol style="list-style-type: none"> <li>1. Construction of retaining walls using boulders</li> <li>2. Construction of drains</li> <li>3. Covering of transport vehicles</li> <li>4. Watering of road surfaces (Image 5.1.13)</li> <li>5. Soil erosion control and slope protection using turfing (Images 5.1.14 and 5.1.15)</li> </ol>



**Image 5.1.13 Watering of Road No. 39 in the KA3 Package for dust control**



**Image 5.1.14 Turfing of Road No. 05, CH:1+600 RHS in the KA3 Package for erosion control**



**Image 5.1.15 Hard shoulder for erosion control at Road No. 37, CH-3+730 in the KA3 Package**



**Table 5.1.5 Environmental impacts observed during the reporting period and mitigation measures taken by the NE 1 Contractor in the Nuwara Eliya District**

Road No	Environmental Issue observed	Mitigation measure/s taken by the contractor
1,2,3,4,5,6,7,8,9,10,11,12,13,14	<ol style="list-style-type: none"> <li>1. Soil erosion from the dumping site</li> <li>2. Dust generation during laying and compaction of ABC</li> <li>3. Soil erosion from shoulder edge</li> <li>4. Contamination caused by oil leakages</li> <li>5. Dust dispersing over the plants during the priming of the roads.</li> </ol>	<ol style="list-style-type: none"> <li>1. Construction of boulder walls (Images 5.1.16 and 5.1.18)</li> <li>2. Spreading water over the ABC layer</li> <li>3. Turfing</li> <li>4. Storing fuel and oil on a cemented floor to prevent soil contamination</li> <li>5. Covering of tea plants by polythene during priming. (Image 5.1.17)</li> </ol>



**Image 5.1.16 Boulder packing for erosion control at the dumping yard of Road No.11 in the NE1 Package**



**Image 5.1.17 Tea plants covered with polythene during the priming of Road No.10 in the NE1 Package**



**Image 5.1.18 Boulder packing for erosion control at the dumping yard of Road No.8 in the NE1 Package**

**Table 5.1.6 Environmental impacts observed during the reporting period and mitigation measures taken by the NE 2 Contractor in the Nuwara Eliya District**

Road No	Environmental issue observed	Mitigation measure/s taken by the contractor
29,24,19,16,17	<ol style="list-style-type: none"> <li>1. Muddy water collecting in the canal</li> <li>2. Soil erosion in the dumping site</li> <li>3. Soil erosion in the locations where drains were constructed</li> <li>4. Soil erosion at the shoulder work location</li> <li>5. Water pollution due to erosion</li> </ol>	<ol style="list-style-type: none"> <li>1. Construction of a boulder wall to prevent muddy water flowing into the canal (Image 5.1.19 and Image 5.1.26.)</li> <li>2. Erosion control through turfing</li> <li>3. Construction of a boulder wall to control erosion.</li> <li>4. Improvement of drainage</li> <li>5. Construction of a Gabion wall to control erosion (Image 5.1.20)</li> <li>6. Improvement of the road surface without affecting the surroundings (Image 5.1.21)</li> </ol>



**Image 5.1.19 Toe wall developed for erosion control at Road 16. (CH:3+800 RHS)**



**Image 5.1.20 Gabion wall constructed for erosion control at Road 21A. (CH:0+420 RHS)**



**Image 5.1.21 Development of the road surface of Road 20A without affecting the surroundings**

**Table 5.1.7 Environmental impacts observed during the reporting period and mitigation measures taken by the NE 3 Contractor in the Nuwara Eliya District**

Road No	Environmental issue observed	Mitigation measure/s taken by the contractor
46,34,36,45,33,44,40,41,47,49	<ol style="list-style-type: none"> <li>1. Soil erosion at the embankment</li> <li>2. Soil erosion at the dumping yards</li> <li>3. Dust generation due to construction</li> <li>4. Dust generation due to material transport</li> <li>5. Soil erosion at the road edge</li> </ol>	<ol style="list-style-type: none"> <li>1. Turfing (Images 5.1.22 and 5.1.30)</li> <li>2. Construction of a boulder wall at the dumping yards.</li> <li>3. Water sprinkling to control dust (Image 5.1.23).</li> <li>4. Covering of trucks (Image 5.1.24).</li> </ol> <p>Construct Hard shoulder for road Edge (Image 5.1.25 and 5.1.26)</p> <ol style="list-style-type: none"> <li>5. Proper Drainage in Marshy Land (Image 5.1.28)</li> </ol>



**Image 5.1.22 Turfing to control erosion at CH: 5+400 LHS of Road No. 47 in the NE3 Package**



**Image 5.1.23 Water sprinklers used for dust control at Road No.45 0+500 in the NE3 Package**



**Image 5.1.24 Trucks covered with proper covering material (outside) for controlling dust generation in the NE 3 Package**





**Image 5.1.25 Application of hard shoulder for erosion control at the road edge of Road No.47, CH: 3+580 RHS in the NE3 Package**



**Image 5.1.26 Boulder wall constructed at the dumping yards of Road No.33, CH: 4+630 LHS in the NE3 Package**



**Image 5.1.27 Application of hard shoulder for erosion control at the road edge of Road No.49 in the NE3 Package**



**Image 5.1.28 Arrangement of proper drainage for the marshy land near Road No.4, CH:1 3+200 in the NE3 Package**



**Image 5.1.29 Boulder wall constructed at the dumping yards of Road No.34, CH: 3+010 in the NE3 Package**



**Image 5.1.30 Turfing at Road No.46, CH: 5+600 RHS for erosion control**

**Table 5.1.8 Environmental impacts observed during the reporting period and mitigation measures taken by the KE 2 Contractor in the Kegalle District**

Road No.	Environmental issue observed	Mitigation measure/s taken by contractor
21, 22, 26, 27, 34, 39, 63	<ol style="list-style-type: none"> <li>1. Soil erosion</li> <li>2. Dust generation</li> <li>3. Disturbance created to agricultural crops during road construction</li> </ol>	<ol style="list-style-type: none"> <li>1. Boulders packed to control erosion (Images 5.1.31, 5.1.32 and 5.1.33)</li> <li>2. Turfing (Image 5.1.34)</li> <li>3. Water sprinkling to control dust generation (Image 5.1.35)</li> <li>4. Only the minimum required extent of land used from agricultural lands (Images 5.1.36, and 5.1.37)</li> </ol>



**Image 5.1.31 Boulder packing to control water pollution and soil erosion at Road No.27 (CH: 3+050 RHS), KE 2 Package**



**Image 5.1.32 Boulder packing to control water pollution and soil erosion at Road ID. 26 (CH:2+110) KE 2 Package**



**Image 5.1.33 Boulder packing to control water pollution and soil erosion Road ID. 22 (0+200 RHS) in the KE 2 Package**





**Image 5.1.34 Shoulder turfs for erosion control at Road No.34 in the KE 2 Package**



**Image 5.1.35 Watering dust control, Road ID. 39 (CH: 1+480)**



**Image 5.1.36 Minimum required extent of paddy land taken for Road ID.63 (CH: 0+000-0+150) in the KE 2 Package**



**Image 5.1.37 Minimum required extent of land from agricultural land taken for Road ID. 21 (CH: 0+380-420)**

**Table 5.1.9 Environmental impacts observed during the reporting period and mitigation measures taken by the KE 3 Contractor in the Kegalle District**

Road No	Environmental issue observed	Mitigation measure/s taken by the contractor
28,29,43,45,46,48,52,53,56,65,66	<ol style="list-style-type: none"> <li>CRS barrels were not properly arranged in the yard.</li> <li>Reinforcing bars on the culvert head wall which have been reserved for guard stones could cause a safety hazard.</li> <li>Road surface was very poor.</li> <li>Discarded waste barricade tapes and cement bags were present on the roads.</li> <li>Storm water has damaged the existing road.</li> <li>Surface runoff and gully erosion</li> <li>Road edge has eroded and a house flooded.</li> <li>Embankment erosion.</li> <li>Road edge erosion.</li> </ol>	<ol style="list-style-type: none"> <li>CRS barrels were arranged properly.</li> <li>Bamboos were used to cover the reinforcing bars.</li> <li>A community-based maintenance program was organized.</li> <li>Waste barricade tapes was burned at the site.</li> <li>A first aid box was installed.</li> <li>Polybags were arranged along the road to prevent road damage.</li> <li>Silt traps were constructed.</li> <li>L drains were constructed.</li> <li>Toe walls were constructed.</li> </ol>



**Image 5.1.38 Reinforcing bars on the culvert head wall which have been reserved for guard stones at Road No. 46 in the KE3 Package**



**Image 5.1.39 Reinforcing bars on the culvert head wall which have been reserved for guard stones at Road No. 46 in the KE3 Package**



Image 5.1.40 Poor road surface of Road No. 56 in the KE3 Package



Image 5.1.41 Completed road surface of Road No. 56 in the KE3 Package



Image 5.1.42 Eroded road edge of Road No. 29 in the KE3 Package and the flooded house



Image 5.1.43 L drain at Road No. 29 in the KE3 Package



**Table 5.1.10 Environmental impacts observed during the reporting period and mitigation measures taken by the R 3 Contractor in the Ratnapura District**

Road No.	Environmental issue observed	Mitigation measure/s taken by the contractor
04,10,10A,26,27,34,35	<ol style="list-style-type: none"> <li>1. Embankment erosion and siltation at nearby culverts</li> <li>2. Disposed soil eroded at the other land</li> <li>3. Eroded road shoulders</li> <li>4. Disposed piles flowing with rain water</li> </ol>	<ol style="list-style-type: none"> <li>1. Grass sodding done to minimize erosion</li> <li>2. A catch pit built for trapping the silt</li> <li>3. A toe wall constructed to control erosion</li> <li>4. Boundary walls constructed.</li> <li>5. Turfing of shoulders.</li> <li>6. Disposal yard restored. (Images 5.1. 44 ,5.1. 45 and 5.1. 46)</li> </ol>



**Image 5.1. 44 Dumping Yard restored at CH: 2+577  
RHS of Road ID. 34 in the R 3 Package**



**Image 5.1.45 Dumping yard restored at CH:2+577  
RHS of Road ID. 34 in the R 3 Package**



**Image 5.1.46 Properly restored dumping yard at  
Road ID. in the R 3 Package**

**Table 5.1.11 Environmental impacts observed during the reporting period and mitigation measures taken by the KL 1 Contractor in the Kalutara District**

Road No.	Environmental issue observed	Mitigation measure/s taken by the contractor
12,47,92	<ol style="list-style-type: none"> <li>1. Bitumen on the road surface getting washed off during rain</li> <li>2. Vegetable cultivations getting damaged due to rain water accumulation caused by culvert construction work</li> <li>3. Bitumen getting washed off and plant nursery and drinking water well getting polluted due to washed off bitumen.</li> </ol>	<ol style="list-style-type: none"> <li>1. Land cleaned and a drainage system constructed.</li> <li>2. Drainage structures maintained properly.</li> <li>3. Insurance company informed to make payments for damages.</li> <li>4. Plant nursery and the drinking water well were cleaned.</li> </ol>



**Table 5.1.12 Environmental impacts observed during the reporting period and mitigation measures taken by the KL 2 Contractor in the Kalutara District**

Road No.	Environmental issue observed	Mitigation measure/s taken by contractor
34, 35, 36, 37, 51, 53, 88	<ol style="list-style-type: none"> <li>1. Air pollution due to the generation of dust and smoke</li> <li>2. Water getting stagnant in pot holes and uneven surfaces found on the road</li> <li>3. ABC and soil getting washed off to paddy lands during floods</li> <li>4. Disposal yards getting washed off during heavy rains</li> <li>5. Poor safety arrangements at the construction site</li> <li>6. Siltation of the agricultural lands</li> <li>7. Water getting stagnated due to improper drainage</li> </ol>	<ol style="list-style-type: none"> <li>1. Road surfaces watered daily (Image 5.1.47).</li> <li>2. Drains constructed and routine maintenance work carried out.</li> <li>3. ABC and soil removed using JCB equipment.</li> <li>4. Toe walls constructed using gunny bags/boulders at the disposal yards and the embankment turfed (Image 5.1.49).</li> <li>5. Proper safety arrangements done with night lighting (Image 5.1.48).</li> <li>6. Adequate openings provided for the discharge of flood water and accumulated rain water.</li> <li>7. Drainage path improved to avoid water stagnation.</li> </ol>



**Image 5.1.47 Watering of Road No. 88 in the KL 2 Package to control dust and arranging proper drainage for the marshy land**



**Image 5.1.48 Safety arrangements made with night lightning at Road No.34 in the KL 2 Package**



**Image 5.1.49 Turfing done at Road No.53 in the KL2 Package for erosion control and proper drainage provided for the marshy land**

**Table 5.1.13 Environmental impacts observed during the reporting period and mitigation measures taken by the KL 3 Contractor in the Kalutara District**

Road No	Environmental Issue observed	Mitigation measure/s taken by the contractor
20	1. Flooding during rain	1. A concrete pavement constructed along the road stretch and 4 culverts constructed to improve drainage.

## 5.2 Environmental Issues Observed by the PIU and PIC

Environmental issues were observed by PIU staff and PIC staff during their field visits. Instructions were given by PIC staff to the contractor 's staff to rectify these issues. ES (PIC03) had a challenging task of coordinating environmental management in the six districts. A network was setup to manage communication among the staff of PIU, PIC and contractors responsible for environmental aspects of the Project in order to ensure the environmental compliance requirements of the Project. Social and Environmental Development Assistant (SEDA) of the PIC contributed to resolve these issues and assisted contractor 's staff in rectifying the environmental issues. However, PIC staff had to undergo many difficulties due to the absence of SEOs in many of the contracts. SEOs were absent in 7 of the contract packages during December 2018. A summary of the environmental issues observed by PIU and PIC staff and their status of compliance are presented in Tables 5.2.1.

**Table 5.2.1 Summary of the environmental issues observed by PIU staff and PIC staff and their status of compliance**

District	Package and road	Environmental issue observed	Mitigation measure/s taken by the contractor	Actions taken by PIC / Effectiveness of PIC actions	Status of rectification done based on PIC recommendations or remarks
Matale	MA1, Road No. 04 Yatawatta Mathalapitiya Road -Idangama Athathwwta Kurunagala Matale Road via Alpola Maligathenna	<ul style="list-style-type: none"> <li>• Soil erosion at the disposal yards</li> <li>• Poor waste management</li> <li>• Unauthorized dumping</li> </ul>	<ul style="list-style-type: none"> <li>• Erosion control measures were taken at the relevant places in the disposal yards</li> <li>• A proper waste management system was introduced.</li> <li>• Unauthorised dumping was stopped.</li> </ul>	PIC continuously monitored the process till its completion.	Rectification done was satisfactory.
	MA 2, Road No. 22 Kandalama Rotawewa Road	<ul style="list-style-type: none"> <li>• Poor management of disposal yards</li> <li>• Improperly restored disposal yards</li> </ul>	<ul style="list-style-type: none"> <li>• Disposal yards were improved.</li> <li>• Disposal yards were restored in accordance with the restoration plan.</li> </ul>	PIC and PIU recommendations helped to mitigate the issues effectively.	Rectification done was satisfactory.
	MA 3, Road No. 43 Kosgolla Mudune – Louwala Junction via Imbulgolla Road	<ul style="list-style-type: none"> <li>• Soil erosion at road sites</li> <li>• Unauthorized dumping</li> <li>• Improperly restored disposal yards</li> </ul>	<ul style="list-style-type: none"> <li>• Erosion control measures were taken at the relevant places.</li> <li>• Unauthorised dumping was stopped.</li> <li>• Disposal yards were restored properly.</li> </ul>	PIC monitored the process continuously till its completion.	Rectification done was satisfactory.

District	Package and road	Environmental issue observed	Mitigation measure/s taken by the contractor	Actions taken by PIC / Effectiveness of PIC actions	Status of rectification done based on PIC recommendations or remarks
Kandy	KA 2. Road No. 25 Boralu Mankada Junction – Millagahawatta Junction via Grohill Road Angammana Drate Kahawatta Road	<ul style="list-style-type: none"> <li>• Soil erosion at road sites</li> <li>• Unauthorized dumping</li> <li>• Improperly restored disposal yards</li> </ul>	<ul style="list-style-type: none"> <li>• Proper waste management was introduced.</li> <li>• Unauthorised dumping was stopped.</li> <li>• Disposal yards were restored properly</li> </ul>	PIC monitored the process continuously till its completion.	Rectification done was satisfactory.
	KA 2, Road No. 26 Dodanwala Dewelaya Wathurakumbura via Greppitiya Temple	<ul style="list-style-type: none"> <li>• Poor waste Management at the stock yards</li> <li>• Unauthorized dumping</li> </ul>	<ul style="list-style-type: none"> <li>• Proper waste management was introduced.</li> <li>• Unauthorised dumping was stopped.</li> </ul>	PIC monitored the process continuously till its completion.	Rectification done was satisfactory.
	KA 2, Road No. 13 Udaiguruwatta Road to Wewathenna Road	<ul style="list-style-type: none"> <li>• Soil erosion at road sites</li> <li>• Unauthorized dumping</li> <li>• Improperly restored disposal yards</li> </ul>	<ul style="list-style-type: none"> <li>• Proper waste management was introduced.</li> <li>• Unauthorised dumping was stopped.</li> </ul>	PIC monitored the process continuously till its completion.	Rectification done was satisfactory.

District	Package and road	Environmental issue observed	Mitigation measure/s taken by the contractor	Actions taken by PIC / Effectiveness of PIC actions	Status of rectification done based on PIC recommendations or remarks
Kandy			<ul style="list-style-type: none"> <li>Disposal yards were restored properly</li> </ul>		
	KA3, Road No. 09 Hanthanna Uduwella Watta -Galaha Town via Galahawatta Kithulgolla	<ul style="list-style-type: none"> <li>Poor safety arrangements at the road sites</li> <li>Unauthorized stock yards at the road sites</li> <li>Unauthorized dumping</li> </ul>	<ul style="list-style-type: none"> <li>Safety arrangements at the road sites were improved.</li> <li>Unauthorised stock yards were removed.</li> <li>Unauthorised dumping was stopped.</li> </ul>	PIC and PIU recommendations helped to mitigate the issues effectively.	Rectification done was satisfactory.
	KA3, Road No. 06 Mahakanda Junction Mobr Samdi Mawatha via Sarasavigama Road	<ul style="list-style-type: none"> <li>Poor safety arrangements at the road sites</li> <li>Unauthorized dumping</li> </ul>	<ul style="list-style-type: none"> <li>Safety arrangements at the road sites were improved.</li> <li>Unauthorised dumping was stopped.</li> </ul>	PIC and PIU recommendations helped to mitigate the issues effectively.	Rectification done was satisfactory.
	KA3, Road No 50 Poojapitiya , Dodamthanna Antharagama ,Pattiyawa via Rajapihilla Road	<ul style="list-style-type: none"> <li>Soil erosion at disposal yards</li> <li>Unauthorized dumping</li> </ul>	<ul style="list-style-type: none"> <li>Soil erosion control measures were implemented at the disposal yards.</li> <li>Unauthorised dumping was stopped.</li> </ul>	PIC monitored the process continuously till its completion.	Rectification done was satisfactory.
Nuwara Eliya	NE1 , Road No Udupussallawa Kuruppanawela Road	<ul style="list-style-type: none"> <li>Soil erosion at the road sites</li> </ul>	<ul style="list-style-type: none"> <li>Soil erosion control measures were implemented at the required places.</li> </ul>	PIC and PIU recommendations helped to mitigate the issue effectively.	Rectification done was satisfactory.



District	Package and road	Environmental issue observed	Mitigation measure/s taken by the contractor	Actions taken by PIC / Effectiveness of PIC actions	Status of rectification done based on PIC recommendations or remarks
Nuwara Eliya		<ul style="list-style-type: none"> <li>Unauthorized dumping of construction waste</li> <li>Unauthorised dumping of construction waste and sludge</li> </ul>	<ul style="list-style-type: none"> <li>Unauthorised dumping was stopped.</li> <li>Unauthorised dumping of construction waste sludge was stopped.</li> </ul>		
	NE 1, Road No. 3 Ragala Starapt Panditha Kubura Road	<ul style="list-style-type: none"> <li>Soil erosion at the road sites</li> <li>Unauthorized dumping of construction waste</li> <li>Unauthorised dumping of construction waste and sludge</li> </ul>	<ul style="list-style-type: none"> <li>Soil erosion control measures were implemented at the required places.</li> <li>Unauthorised dumping was stopped.</li> <li>Unauthorised dumping of construction waste sludge was stopped.</li> </ul>	PIC and PIU recommendations helped to mitigate the issues effectively.	Rectification done was satisfactory.
	NE 1, Road No. 8 Rikillagaskada Dimbulkumbura Road	<ul style="list-style-type: none"> <li>Soil erosion at the road sites</li> <li>Unauthorized dumping of construction waste</li> <li>Unauthorised dumping of construction waste and sludge</li> </ul>	<ul style="list-style-type: none"> <li>Soil erosion control measures were implemented at the required places.</li> <li>Unauthorised dumping was stopped.</li> <li>Unauthorised dumping of construction waste sludge was stopped.</li> </ul>	PIC and PIU recommendations helped to mitigate the issues effectively.	Rectification done was satisfactory.

District	Package and road	Environmental issue observed	Mitigation measure/s taken by the contractor	Actions taken by PIC / Effectiveness of PIC actions	Status of rectification done based on PIC recommendations or remarks
	NE 1, Road No. 10 Mahauva High Forest Road	<ul style="list-style-type: none"> <li>• Soil erosion at the road sites</li> <li>• Unauthorized dumping</li> <li>• Unauthorised dumping of construction waste</li> <li>• Blocked side drains</li> </ul>	<ul style="list-style-type: none"> <li>• A proper waste management system was introduced.</li> <li>• Unauthorised dumping was stopped.</li> <li>• Unauthorised dumping of construction waste was stopped.</li> <li>• Blocked drains were cleaned.</li> </ul>	PIC monitored the process continuously till its completion.	Rectification done was satisfactory.
	NE 1, Road No. 11 Hapuwela – Rikillagaskada Road	<ul style="list-style-type: none"> <li>• Hospital waste water discharging to the road drainage system</li> <li>• Unauthorized dumping</li> <li>• Unauthorised dumping of construction waste sludge</li> </ul>	<ul style="list-style-type: none"> <li>• Hospital was instructed to improve hospital waste water disposal.</li> <li>• Unauthorised dumping was stopped.</li> </ul>	PIC and PIU recommendations helped to mitigate the issues effectively.	Rectification done was satisfactory.
	NE 1 No 13 Pellebowala Medegama Deltotla Road	<ul style="list-style-type: none"> <li>• ABC that is washed off getting silted at the paddy fields</li> <li>• Unauthorized dumping</li> </ul>	<ul style="list-style-type: none"> <li>• ABC that was washed off at the road surface was restored.</li> <li>• Silted paddy field was cleaned.</li> <li>• Unauthorised dumping was stopped.</li> </ul>	PIC monitor continuously till the completion of the remedial measures.	Rectification done was satisfactory.

District	Package and road	Environmental issue observed	Mitigation measure/s taken by the contractor	Actions taken by PIC / Effectiveness of PIC actions	Status of rectification done based on PIC recommendations or remarks
Kegalle	KE 2 No 60 Dedigama Harathgoda –Othnapitiya Road	<ul style="list-style-type: none"> <li>Collapsed protection wall (Image 5.2.11)</li> </ul>	<ul style="list-style-type: none"> <li>A new protection wall was constructed (Image 5.2.12)</li> </ul>	PIC monitored the process continuously till its completion.	Rectification done was satisfactory.
	KE 2 No 38 Ibulgala to Ambanpitiya Kumarage Mawatta Road	<ul style="list-style-type: none"> <li>Soil erosion at road sites</li> <li>Unauthorized dumping</li> <li>Improperly restored disposal yards</li> <li>Retaining wall collapsing due to road development activities</li> </ul>	<ul style="list-style-type: none"> <li>Suitable soil conservation measures were implemented.</li> <li>Unauthorised dumping was stopped.</li> <li>A concrete retaining wall was constructed to overcome the issue.</li> </ul>	PIC monitored the process continuously till its completion.	Rectification done was satisfactory.
	KE 3 No 42 Wanduragoda Temple Junction (Mawennella - Hemmathagama Road	<ul style="list-style-type: none"> <li>Well getting polluted by soil and mud.</li> </ul>	<ul style="list-style-type: none"> <li>Well was cleaned</li> <li>A drain was constructed around the protective wall to divert rain water run-off. (Images 5.2.1,5.2.2.,5.2.3, and 5.2.4)</li> </ul>	PIC monitored the process continuously till its completion.	Rectification done was satisfactory.
	KE 3 No 29 Kempitiya – Kempitiya Temple Road	<ul style="list-style-type: none"> <li>Soil erosion at road shoulders</li> <li>Silted paddy fields</li> </ul>	<ul style="list-style-type: none"> <li>Road shoulders were compressed and turfed.</li> <li>Silted paddy-field was restored.</li> </ul>	PIC monitored the process continuously till its completion.	Rectification done was satisfactory.

District	Package and road	Environmental issue observed	Mitigation measure/s taken by the contractor	Actions taken by PIC / Effectiveness of PIC actions	Status of rectification done based on PIC recommendations or remarks
Kegalle	KE 3 No 28, Pamankade Mahadeniya Road	<ul style="list-style-type: none"> <li>• Soil erosion at road sites</li> <li>• Unauthorized dumping</li> <li>• Well getting polluted by rain water runoff</li> </ul>	<ul style="list-style-type: none"> <li>• Suitable soil conservation measures were implemented.</li> <li>• Unauthorised dumping was stopped.</li> <li>• Polluted well was cleaned.</li> <li>• A drain was constructed around the protective wall to prevent rain water run-off getting into the well (Image 5.2.7 and 5.2.8)</li> </ul>	PIC monitored the process continuously till its completion.	Rectification done was satisfactory.
	KE 3 No 43 Mawanella - Hemmathagama Road Eramnigamma Temple -Thambavita	<ul style="list-style-type: none"> <li>• Soil erosion at road shoulders</li> <li>• Paddy field getting silted by eroded soil</li> </ul>	<ul style="list-style-type: none"> <li>• Road shoulder was compressed and turfed (Image 5.2.5.and 5.2.6)</li> <li>• Silted paddy field was restored.</li> </ul>	PIC monitored the process continuously till its completion.	Rectification done was satisfactory.
	KE 3, No. 52 Thagamuwa Attapitiya	<ul style="list-style-type: none"> <li>• Soil erosion at road shoulders</li> <li>• Silted paddy fields</li> <li>• Rain water eroding the road in front of a sales outlet (Image 5.2.9)</li> </ul>	<ul style="list-style-type: none"> <li>• Road shoulder was compressed and turfed.</li> <li>• Silted paddy field was restored.</li> <li>• Sand bags were laid to stop rain water from flowing into the sales out let. (Image 5.2.10)</li> </ul>	PIC monitored the process continuously till its completion.	Rectification done was satisfactory.

District	Package and road	Environmental issue observed	Mitigation measure/s taken by the contractor	Actions taken by PIC / Effectiveness of PIC actions	Status of rectification done based on PIC recommendations or remarks
Ratnapura	R03 No 38 Delgoda-Belipola- Wathurawa Road	<ul style="list-style-type: none"> <li>Soil erosion at disposal yards and culverts</li> <li>Storm water stagnation</li> <li>Slope failure</li> </ul>	<ul style="list-style-type: none"> <li>A toe wall was constructed to prevent soil erosion.</li> <li>A lead away drain and Rip-Rap was constructed.</li> <li>A cross drain was constructed at the required location.</li> <li>A catch pit was constructed and back filled.</li> <li>Slopes which were more than 2 m in height were shaped to get a more stable slope.</li> </ul>	PIC monitored the process continuously till its completion.	Rectification done was satisfactory.
Ratnapura	R.03 Road ID-10A	<ul style="list-style-type: none"> <li>Soil erosion at road sites and disposal yards (Image 5.1.13)</li> <li>Unauthorized dumping</li> </ul>	<ul style="list-style-type: none"> <li>A boulder wall was constructed. (Image 5.1.14).</li> <li>Unauthorised dumping was stopped.</li> </ul>	PIC and PIU recommendations helped to mitigate the issues effectively.	Rectification done was satisfactory.
	R.01 No-17 Kaluandura Diurumpitiya Road Via Viyalagodada	<ul style="list-style-type: none"> <li>Unauthorized dumping</li> <li>Soil erosion at road sites.</li> <li>Unrestored disposal yard (Image 5.2.14)</li> </ul>	<ul style="list-style-type: none"> <li>Suitable soil conservation measures were implemented.</li> <li>Unauthorised dumping was stopped.</li> <li>Disposal yard was restored. (Image 5.2.15)</li> </ul>	PIC and PIU recommendations helped to mitigate the issues effectively.	Rectification done was satisfactory.



District	Package and road	Environmental issue observed	Mitigation measure/s taken by the contractor	Actions taken by PIC / Effectiveness of PIC actions	Status of rectification done based on PIC recommendations or remarks
Ratnapura	R.01 Road ID 14 Saman Dewalaya -Karapincha Road via Ketaliyanpalla	<ul style="list-style-type: none"> <li>Unauthorized dumping</li> <li>Water logging in the absence of a side drain.</li> </ul>	<ul style="list-style-type: none"> <li>Unauthorised dumping was stopped.</li> <li>A proper drainage system was constructed.</li> </ul>	PIC monitored the process continuously till its completion.	Rectification done was satisfactory.
	R.02 Road ID 21 Bopeththa Junction – Mawalla Road	<ul style="list-style-type: none"> <li>Unauthorized dumping</li> <li>Rain water collecting at the culvert head wall</li> </ul>	<ul style="list-style-type: none"> <li>Unauthorised dumping was stopped.</li> <li>Guard stone area was filled up with ABC.</li> </ul>	PIC monitored the process continuously till its completion.	Rectification done was satisfactory.
	R.02 Road ID 32 Rathmalavinna - Oluganthota Road via Hatharabage & Udagama	<ul style="list-style-type: none"> <li>Unauthorized dumping</li> <li>Soil erosion at disposal yards</li> </ul>	<ul style="list-style-type: none"> <li>Suitable soil conservation measures were implemented at the disposal yards.</li> <li>Unauthorised dumping was stopped.</li> </ul>	PIC and PIU recommendations helped to mitigate the issues effectively.	Rectification done was satisfactory.
	R.02 Road ID- 33 Halpe - Weheragoda	<ul style="list-style-type: none"> <li>Unauthorized dumping</li> <li>Soil erosion at disposal yards</li> </ul>	<ul style="list-style-type: none"> <li>Suitable soil conservation measures were implemented at the disposal yards.</li> <li>Unauthorised dumping was stopped.</li> </ul>	PIC and PIU recommendations helped to mitigate the issues effectively.	Rectification done was satisfactory.

District	Package and road	Environmental issue observed	Mitigation measure/s taken by the contractor	Actions taken by PIC / Effectiveness of PIC actions	Status of rectification done based on PIC recommendations or remarks
Kalutara	KL1 No 15 From Wipatha to Magurugoda via Thalliyadda	<ul style="list-style-type: none"> <li>Poor road safety arrangements</li> <li>Unauthorized dumping</li> <li>Entrance of the access road disturbed (Image 5.2.20)</li> </ul>	<ul style="list-style-type: none"> <li>Road safety was improved</li> <li>Unauthorised dumping was stopped.</li> <li>Cleared the entrance of the access road. (Image 5.2.21)</li> </ul>	PIC monitored the process continuously till its completion.	Rectification done was satisfactory.
	KL1 No 64 Kudagonaduwa Thuduwa Road	<ul style="list-style-type: none"> <li>Poor road safety arrangements</li> <li>Unauthorized dumping</li> </ul>	<ul style="list-style-type: none"> <li>Road safety was improved.</li> <li>Unauthorised dumping was stopped.</li> </ul>	PIC monitored the process continuously till its completion.	Rectification done was satisfactory.
	KL1 No 92 Bellanthudawa Galkade Junction to Panadura Ratnapura Nambanana Road	<ul style="list-style-type: none"> <li>Poor road safety arrangements</li> <li>Unauthorized dumping</li> </ul>	<ul style="list-style-type: none"> <li>Road safety was improved.</li> <li>Unauthorised dumping was stopped.</li> </ul>	PIC monitored the process continuously till its completion.	Rectification done was satisfactory.
Kalutara	KL1, No. 16 Kiriberiya Mandawala Road	<ul style="list-style-type: none"> <li>Poor road safety arrangements</li> <li>Unauthorized dumping</li> </ul>	<ul style="list-style-type: none"> <li>Road safety was improved.</li> <li>Unauthorised dumping was stopped.</li> </ul>	PIC monitored the process continuously till its completion.	Rectification done was satisfactory.

District	Package and road	Environmental issue observed	Mitigation measure/s taken by the contractor	Actions taken by PIC / Effectiveness of PIC actions	Status of rectification done based on PIC recommendations or remarks
	KL 2, No 53 Walallawita Uthumgama via Koopiyawatta Road	<ul style="list-style-type: none"> <li>Road becoming muddy and moderate numbers of “Bulath Hapaya” fish who live in clear water found in the stream (Image 5.2.18)</li> </ul>	<ul style="list-style-type: none"> <li>Unauthorized dumping was stopped.</li> <li>Disposal yards were restored properly.</li> <li>Since “Bulath Hapaya” is endemic to Sri Lanka, action was taken to protect Bulath Hapayas” which were already in the stream and relocate them after the completion of the construction work (Image 5.2.19).</li> </ul>	PIC monitored the process continuously till its completion.	Rectification done was satisfactory.
	KL 2, No 34 Katugahahena Hospital Road to Kosgahakanda Junction via St. George Watta	<ul style="list-style-type: none"> <li>Unauthorized dumping</li> <li>Soil erosion at disposal yards (Image 5.2.16)</li> <li>Paddy field and marshy land getting silted by soil eroded from disposal soil</li> </ul>	<ul style="list-style-type: none"> <li>Unauthorized dumping was stopped.</li> <li>Soil erosion at the disposal yards was controlled (Image 5.2.17)</li> <li>Paddy field was de silted and marshy land was restored.</li> </ul>	PIC monitored the process continuously till its completion.	Rectification done was satisfactory.

District	Package and road	Environmental issue observed	Mitigation measure/s taken by the contractor	Actions taken by PIC / Effectiveness of PIC actions	Status of rectification done based on PIC recommendations or remarks
	KL 2, No. 8 Boralugoda Thiniyawala Road	<ul style="list-style-type: none"> <li>Unauthorized dumping</li> <li>Soil erosion at disposal yards</li> <li>Silted paddy field</li> </ul>	<ul style="list-style-type: none"> <li>Unauthorised dumping was stopped.</li> <li>Disposal yards were restored properly.</li> <li>Silted soil was removed from the paddy field.</li> </ul>	PIC monitored the process continuously till its completion.	Rectification done was satisfactory.
	KL03, N0 30 From Rathnapura Panadura Road to Akkara 100 New Town Sagara Palansooriya Collage Road via Batugampala	<ul style="list-style-type: none"> <li>Poor road safety arrangements</li> <li>Soil erosion at road sites</li> <li>Paddy field getting silted from eroded soil.</li> </ul>	<ul style="list-style-type: none"> <li>Road safety was improved.</li> <li>Soil erosion control measures were taken at the required places.</li> <li>Silted soil was removed from the paddy field.</li> </ul>	PIC monitored the process continuously till its completion.	Rectification done was satisfactory.
	KL3 Road No. 24 Ihala KUdaligama Iddagodda Road	<ul style="list-style-type: none"> <li>Poor road safety arrangements</li> <li>Unauthorized dumping</li> </ul>	<ul style="list-style-type: none"> <li>Road safety arrangements were improved.</li> <li>Unauthorised dumping was stopped.</li> </ul>	PIC monitored the process continuously till its completion.	Rectification done was satisfactory.

District	Package and road	Environmental issue observed	Mitigation measure/s taken by the contractor	Actions taken by PIC / Effectiveness of PIC actions	Status of rectification done based on PIC recommendations or remarks
	KL 3 Road No 81 From Kadanapitiya Sawgus Junction to Degamthilaka Mawatha	<ul style="list-style-type: none"> <li>Poor road safety arrangements</li> <li>Unauthorized dumping</li> </ul>	<ul style="list-style-type: none"> <li>Road safety arrangements were improved.</li> <li>Unauthorised dumping was stopped.</li> </ul>	PIC monitored the process continuously till its completion.	Rectification done was satisfactory.
	KL3 Road No 31 From Boralugoda Road to Poruwadandanda Junction via Manana Sudarshanaramaya	<ul style="list-style-type: none"> <li>Poor road safety arrangements</li> <li>Unauthorized dumping</li> </ul>	<ul style="list-style-type: none"> <li>Road safety arrangements were improved.</li> <li>Unauthorised dumping was stopped.</li> </ul>	PIC monitored the process continuously till its completion.	Rectification done was satisfactory.



## Environmental Impacts Observed by PIC and PIU and Mitigation Measures implemented by the Contractor at Road ID. 43 in the KE3 Package



**Image 5.2.1 Contractor removing muddy water from the well**



**Image 5.2.2 Contractor removing muddy water from the well**



**Image 5.2.3 Temporary sand bag band put up by the contractor to prevent rain water with eroded soil flowing into the well**



**Image 5.2.4 Concrete drains constructed by the contractor as a permanent solution to prevent rain water from flowing into the well by**



**Image 5.2.5: Shoulder and embankment erosion at Road No. 43 in the KE3 Package**



**Image 5.2.6 Turfing done for shoulder and embankment erosion control at Road No. 43 in the KE3 Package**



**Image 5.2.7 Disturbance of the well by road construction activities at Road No. 28 in the KE3 Package**



**Image 5.2.8 Proper protection cover developed to the well by the contractor at Road No. 28 KE3 in the KE3 Package**



**Image 5.2.9 Rain water flowing with eroded soil in front of a sales outlet at Road No. 52 in the KE3 Package**



**Image 5.2.10 Sand bag band put up to prevent rain water from flowing into the sales outlet at Road No. 52 in the KE3 Package**



**Image 5.2.11 Collapsed protection wall at Road No. 60 in the KE2 Package**



**Image 5.2.12 New protection wall was constructed at Road No. 60 in KE2 Package**





**Image 5.2.13 Erosion at the disposal yards at Road No.10 A, CH:4+380 RHS in the R3 Package**



**Image 5.2.14 Construction of boulder packing at the disposal yards for erosion control at Road No. 10 A in the R3 Package**



**Image 5.2.15 Disposal yard at Road No.17 at CH: 2+630 in the R1 Package**



**Image 5.2.16 Restored disposal yard at Road No. 17 in the R1 Package**



**Image 5.2.17 Soil erosion at disposal yard, Road No. 34 in KL2 Package**



**Image 5.2.18 Soil erosion controlled by turfing at disposal yard, Road No. 34 in KL2 Package**



**Image 5.2.19** Water polluted by eroded soil from the water stream near Road No. 53 in the KL2 Package, in which endemic fish species were found



**Image 5.2.20** Stream after cleaning and the net fixed to avoid the migration of endemic fish to the disturbed area of the stream near Road No. 53 in the KL2 Package



**Image 5.2.21.** Damage caused to the entrance of a sales outlet due to road construction activities, of Road No. 15 in the KL1 Package



**Image 5.2.22** Repaired entrance of the sales outlet of Road No. 15 in the KL1 Package



## 5.3 Training Programs Conducted by PIC

### 5.3.1 Training Programs Conducted by PIC for Contractor's Engineering Staff

Subsequent to the observations about environmental safeguard compliance made by PIC staff during their field inspections and to oblige the requests made by the contractor's staff, several training programs were conducted by PIC to create awareness among the contractor's staff about the environmental safeguard compliance required during the reporting period and improve their capacity. The details are provided in Table 5.3.1.

**Table 5.3.1 Details of the training programs conducted by PIC to improve the knowledge and capacity of the contractor's staff on environmental safeguard compliance**

Date	Place	Resource Person	Participants	Content of the training program
22 March 2018	R2 Contractor's office	<ul style="list-style-type: none"> <li>Environmental Specialist</li> <li>Social and Environmental Development Assistant</li> </ul>	<ul style="list-style-type: none"> <li>Project Manager R2</li> <li>Deputy Project Manager R2</li> <li>Environmental and Social Officer –R2 Contractor</li> <li>Safety Officer- R2 Contractor</li> <li>Site Engineer – R2 Contractor</li> <li>Technical Officer - R2 Contractor</li> <li>Site Supervisor - R2 Contractor</li> </ul>	<ul style="list-style-type: none"> <li>ADB safeguard compliance</li> <li>Sri Lankan Environmental Act requirements</li> <li>Approval process for barrow materials, dumping yards and stock yards</li> <li>Licence and permit requirements</li> <li>Site safety requirements</li> </ul>
28 March 2018	Main Yard KL3  (Images 5.3.1 and 5.3.2)	<ul style="list-style-type: none"> <li>Environmental Specialist</li> <li>Social and Environmental Development Assistant</li> </ul>	<ul style="list-style-type: none"> <li>Environmental and Social Officer –KL3 Contractor</li> <li>Safety officer- KL3 Contractor</li> <li>Drivers</li> <li>Helpers</li> <li>Machine operators</li> </ul>	<ul style="list-style-type: none"> <li>ADB safeguard compliance</li> <li>Sri Lankan Environmental Act requirements</li> <li>Approval process for barrow materials, dumping yards and stock yards</li> <li>Licence and permit requirements</li> <li>Site safety requirements</li> <li>Operation of disposal and stock yards</li> </ul>



Date	Place	Resource Person	Participants	Content of the training program
20 June 2018	KL2 CE office	<ul style="list-style-type: none"> <li>Environmental Specialist</li> <li>Social and Environmental Development Assistant</li> <li>Social Safeguards Officer -PIU</li> <li>Environmental Safeguards Officer -PIU</li> </ul>	<ul style="list-style-type: none"> <li>Project Manager KL2</li> <li>Deputy Project Manager KL2</li> <li>Environmental and Social Officer – KL2 Contractor</li> <li>Safety Officer- KL2 Contractor</li> <li>Site Engineer – KL2 Contractor</li> <li>Technical Officer KL2 Contractor</li> <li>Site Supervisor- KL2 Contractor</li> </ul>	<ul style="list-style-type: none"> <li>ADB safeguard compliance</li> <li>Sri Lankan Environmental Act requirements</li> <li>Approval process for borrow materials, dumping yards and stock yards</li> <li>Licence and permit requirements</li> <li>Site safety requirements</li> </ul>
9 June 2018	KE2 Contractor's office	<ul style="list-style-type: none"> <li>Environmental Specialist</li> <li>Social and Environmental Development Assistant</li> </ul>	<ul style="list-style-type: none"> <li>Project Manager KE2</li> <li>Deputy Project Manager KE2</li> <li>Environmental and Social Officer – KE2 Contractor</li> <li>Safety Officer - KE2 Contractor</li> <li>Site Engineer - KE2 Contractor</li> <li>Technical Officer - KE2 Contractor</li> <li>Site Supervisor - KE2 Contractor</li> </ul>	<ul style="list-style-type: none"> <li>ADB safeguard compliance</li> <li>Sri Lankan Environmental Act requirements</li> <li>Approval process for borrow materials, dumping yards and stock yards</li> <li>Licence and permit requirements</li> <li>Site safety requirements</li> </ul>
	KE3 Contractor's office	<ul style="list-style-type: none"> <li>Environmental Specialist</li> <li>Social and Environmental Development Assistant</li> </ul>	<ul style="list-style-type: none"> <li>Project Manager KE3</li> <li>Deputy Project Manager KE3</li> <li>Environmental and Social Officer –KE3 Contractor</li> <li>Safety Officer-KE3 Contractor</li> <li>Site Engineer – KE3 Contractor</li> <li>Technical Officer KE3 Contractor</li> <li>Site Supervisor- KE3 Contractor</li> </ul>	<ul style="list-style-type: none"> <li>ADB safeguard compliance</li> <li>Sri Lankan Environmental Act requirements</li> <li>Approval process for borrow materials, dumping yards and stock yards</li> <li>Licence and permit requirements</li> <li>Site safety requirements</li> </ul>

Date	Place	Resource Person	Participants	Content of the training program
28 November 2018	KE2 Contractor's office (Images 5.3.5 and 5.3.6)	<ul style="list-style-type: none"> <li>Environmental Specialist</li> <li>Social /Gender/Resettlement Specialist</li> <li>Construction Engineer</li> <li>Social and Environmental Development Assistant</li> </ul>	<ul style="list-style-type: none"> <li>Project Manager KE2</li> <li>Deputy Project Manager KE2</li> <li>Environmental and Social Officer –KE3 Contractor</li> <li>Safety Officer- KE2 Contractor</li> <li>Site Engineer – KE2 Contractor</li> <li>Technical Officer KE2 Contractor</li> <li>Site Supervisor- KE2 Contractor</li> </ul>	<ul style="list-style-type: none"> <li>ADB Safeguard Compliance</li> <li>Sri Lankan Environmental Act requirements</li> <li>Approval process for borrow materials, dumping yards and stock yards</li> <li>Licence and permit requirements</li> <li>Site safety requirements</li> </ul>
5 December 2018	RE office Kegalle	<ul style="list-style-type: none"> <li>Environmental Specialist</li> <li>Social /Gender/Resettlement Specialist</li> <li>Social and Environmental Development Assistant</li> </ul>	<ul style="list-style-type: none"> <li>Project Manager KE3</li> <li>Deputy Project Manager KE3</li> <li>Environmental and Social Officer –KE3 Contractor</li> <li>Safety Officer-KE3 Contractor</li> <li>Site Engineer – KE3 Contractor</li> <li>Technical Officer KE3 Contractor</li> <li>Site Supervisor- KE3 Contractor</li> </ul>	<ul style="list-style-type: none"> <li>ADB safeguard compliance</li> <li>Sri Lankan Environmental Act requirements</li> <li>Approval process for borrow materials, dumping yards and stock yards</li> <li>Licence and permit requirements</li> <li>Site safety requirements</li> </ul>
01 November 2018	KL03 CE Office (Images 5.3.3 and 5.3.4)	<ul style="list-style-type: none"> <li>Environmental Specialist</li> <li>Social /Gender/Resettlement Specialist</li> <li>Social and Environmental Development Assistant</li> </ul>	<ul style="list-style-type: none"> <li>Project Manager KL03</li> <li>Deputy Project Manager KL03</li> <li>Environmental and Social Officer – KL03 Contractor</li> <li>Safety Officer- KL03 Contractor</li> <li>Site Engineer – KL03 Contractor</li> </ul>	<ul style="list-style-type: none"> <li>ADB Safeguard Compliance</li> <li>Sri Lankan Environmental Act requirements</li> <li>Approval process for borrow materials, dumping yards and stock yards</li> <li>Licence and permit requirements</li> </ul>

Date	Place	Resource Person	Participants	Content of the training program
			<ul style="list-style-type: none"> <li>• Technical Officer KL03 Contractor</li> <li>• Site Supervisor- KL03 Contractor</li> </ul>	<ul style="list-style-type: none"> <li>• Site safety requirements</li> </ul>



**Images 5.3.1 and 5.3.2 Conducting awareness programs for the drivers, operators and helpers of KL3 Contractors on 28 March 2018 at the main yard of the KL3 Package on the operation of disposal and stock yards**



**Images 5.3.3 and 5.3.4 Conducting awareness programs on environmental safeguards for KL3 contractor's staff on 1 November 2018 at KL3 CE office**



**Images 5.3.5 and 5.3.6: Conducting awareness programs on environmental safeguards for KL3 contractor's staff on 28 November 2018 at KE2 contractor's office**

### 5.3.2 Field Level Training for recently joined Safeguard Staff

One of the main issues faced by PIC03 in implementing safeguards activities is the high turnover of Social and Environmental Officers (ESO) of the contractor and Social and Environmental Development Assistants (SEDA) of the consultant. Most of the recently recruited ESOS and SEDAs did not have sufficient experience in the field implementation of safeguards activities as most of them were fresh graduates from the universities. Hence, a special training program on safeguards activities was conducted by the Environmental Specialist and Social/Gender/ Resettlement Specialist on 7 March 2018 at the TL's office and on 8 March 2018 at Kalutara District in the field (Images 5.3.7 and 5.3.8).



**Images 5.3.7 and 5.3.8 Conducting field training on implementing safeguards activities for newly recruited ESOS and SEDA by the Environmental Specialist and Social /Gender/Resettlement Specialist in the Kalutara District on 8 March 2018**

### 5.4 Tree Removing and Tree Planting Program

Tree removing for road construction work was minimized as much as possible during the reporting period. This was highly emphasized by the Team Leader and Project Directors at the monthly progress review meetings. A systematic tree removing process was practiced in PIC03 as indicated below.

- After demarcating ROW road according to the road design, ESO of the contractor prepared the list of trees to be removed
- This list was sent by the contractor to RE with a copy to PD/PE.
- A joint inspection was conducted with the representatives of PIU, PIC and contractor and the list was finalized.



- The finalized list was presented at the monthly progress review meeting. TL and PD sought clarifications where necessary and if required special field inspections were conducted with the participation of TL and DP.
- After its finalization, the list was sent to the relevant Divisional Secretary (DS)
- DS granted the approval for the list after seeking any clarifications from the relevant “Grama Niladhari”.
- The trees that were removed from state land were handed over to State Timber Corporation and trees removed from private land were handed over to the owners through the relevant Grama Niladhari.

There were no trees to be removed under the NE02 Package. However, some trees were identified to be removed in the environmental checklists of some roads in the NE2 Package. Tree planting programs are now being implemented in all of the contract packages. Some contractors have even planted trees which were more than what was required (as a CSR program). Tree planting programs of most of the contract packages are being implemented in collaboration with state sector organizations such as the Divisional Secretarial Offices, Agrarian Services Department, Agriculture Department and Department of Export Agriculture. Most of the tree planting programs conducted in the Kandy District were done in collaboration with the Education Department and schools in the district. In some contract packages, community organizations and temples collaborated at village level in the tree planting programs. Priority was given to fruit, spices and medicinal trees when selecting tree species for the tree planting program. Lists of tree species suitable to different climatic zones coming under the contract packages were given to all the contract packages by the PIC. Table 5.4.1 shows a summary of the tree removal and tree planting programs conducted during the reporting period. The details of the two programs are given in Annexure 4.



**Table 5.4.1 Number of trees planted/ removed during the reporting period**

Province	District	Package	Contractor	Total No. of trees that had to be removed	Total No. of trees removed as at 31st Dec.2017	Total No. of trees that had to be planted	Total No. of trees planted as at 31 <sup>st</sup> Dec.2017
Central	Kandy	KA1	Sierra Construction (Pvt) Ltd	31	42	126	110
		KA2	Sierra Construction (Pvt) Ltd	104	104	312	177
		KA3	Edward and Christie	333	272	816	370
		Total for the Kandy District		468	418	1254	657
	Matale	MA1	K D Ebert and Sons Holdings (Pvt) Ltd	11	23	69	109
		MA2	Edward and Christie	37	10	30	50
		MA3	CML-MTD Construction	0	100	300	586
		Total for the Matale District		48	133	399	745
	Nuwara Eliya	NE1	Sierra Construction (Pvt) Ltd	57	55	165	60
		NE2	Sierra Construction (Pvt) Ltd	0	-	-	50
		NE3	Sierra Construction (Pvt) Ltd	25	19	57	300
		Total for the Nuwara Eliya District		82	74	222	410
Sabaragamuwa	Ratnapura	R1	K D Ebert and Sons Holdings (Pvt) Ltd	193	139	417	160
		R2	K D Ebert and Sons Holdings (Pvt) Ltd	195	63	189	212
		R3	RR Construction	463	464	1392	1219
		Total for the Ratnapura District		851	666	1998	1591
	Kegalle	KE1	K D Ebert and Sons Holdings (Pvt) Ltd	1071	259	777	1057
		KE2	Nawaloka Construction	1122	661	1983	1651
		KE3	Nawaloka Construction	477	253	759	360
		Total for the Kegalle District		2670	1173	3519	3068
Western	Kalutara	KL1	Maga Construction (PVT) Ltd	235	222	666	1060
		KL2	Olympus Construction (PVT) Ltd	67	14	42	12
		KL3	Olympus Construction (PVT) Ltd	75	34	102	9
		Total for the Kalutara District		377	270	810	1081
Grand Total				4496	2734	8202	7552

### 5.4.1 Monitoring the Maintenance of the Planted Trees

Proper maintenance of the trees planted is important to reap the benefits of the tree planting program. Therefore, depending on the type of the tree planting programs they conducted, different contract packages used different strategies to maintain the trees that they planted. Contractors' staff, community members and school students who took part in the tree planting program were involved in maintaining the planted trees. An agreement was signed with these parties to maintain the planted trees. The following three types of maps were prepared to identify the locations where the trees were planted.

1. Maps showing the locations where trees were planted in the relevant contract package
2. Maps showing the different points within one location where the trees were planted
3. Maps shows location of tree planting in location of planting

In addition to the maps, GPS coordinates of the points where trees were planted were also taken

Contractors submitted to the PIC reports on their tree planting programs stage wise. A sample report of the tree planting program is given in Annexure 5. Monitoring of the maintenance of the trees planted is being done by the contractors, PIU and PIC as well as the representatives of the government institutes that were involved in the tree planting programs.

### 5.4.2 Progress of the Growth of some of the Planted Trees

#### Progress of the tree planting program of the KA1 Package during 2018



Image 5.4.1 A Mango tree (*Mangifera indica*) planted at the Ambakote STF Camp (Date of planting – 30 June 2016)



Image 5.4.2 A Mango tree (*Mangifera indica*) planted at the Ambakote STF Camp (Date of planting – 30 June 2017)





Image 5.4.3 A Karada Tree (Pongamia pinnata ) planted at Thennekumbura Vidyaloka Vidyalaya (Date of planting – 3 August 2017)



Image 5.4.4 A Kamaranga Tree (Averrhoa carambola ) planted at Thennekumbura Vidyaloka Vidyalaya (Date of planting – 3 August 2017)

### Progress of the Tree Planting Program at Road ID 22 in the KE2 Package during 2018 (Date of planting - 24. 12. 2016)



Image 5.4.5 A Kumbuk Tree (Termiballa arjuna) just after it was planted



Image 5.4.6 Kumbuk Tree (Termiballa arjuna ) shown in Image 5.4.5 nine months after it was planted



Image 5.4.7 Kumbuk tree (Termiballa arjuna) shown in Image 5.4.5 two years after it was planted



Image 5.4.8 Ehela Tree (Pongamia pinnata) just after it was planted



Image 5.4.9 Ehela Tree (Pongamia pinnata) shown in Image 5.4.8 nine months after it was planted



Image 5.4.10 Ehela Tree (Pongamia pinnata) shown in Image 5.4.8 two years after it was planted



Image 5.4.11 Na Tree (Mesua ferrea) just after it was planted



Image 5.4.12 Na Tree (Mesua ferrea) shown in Image 5.4.11 nine months after it was planted



Image 5.4.13 Na Tree (Mesua ferrea) shown in Image 5.4.11 two years after it was planted





Image 5.4.14 Na Tree (Terminalla arjuna) at the time it was planted



Image 5.4.15 Na Tree (Terminalla arjuna) shown in Image 5.4.14 nine months after it was planted



Image 5.4.16 Na Tree (Terminalla arjuna) shown in Image 5.4.14 two years after it was planted

**Progress of the Tree Planting Program at Road ID 22 in the KE2 Package during 2018  
(Date of planting - 7 July 2017)**



Image 5.4.17: Aberalla Tree (Spondias duleis) at the time it was planted



Image 5.4.18: Aberalla Tree (Spondias duleis) shown in Image 5.4.17 six months after it was planted



Image 5.4.19: Aberalla Tree (Spondias duleis) shown in Image 5.4.17 one year after it was planted



## 5.5 Monitoring of Environmental Safeguard Compliance of the Completed Roads

Before issuing the Taking Over Certificates (TOCs) of the roads that were completed, the environmental safeguard compliance of the relevant roads was monitored by the Social and Environmental Development Assistant (SEDA). Submission of the SSEMAP, EMCS, completion of the tree planting programs, restoration of stock yards and disposal yards and receipt of satisfaction letters from land owners were checked by SEDA for each completed road before issuing the TOC. A report was prepared by SEDA for each completed road stating its environmental safeguard compliance and after checking by ES and RE it was sent to PD by RE.

Submission details of SSEMAP, EMCS, completion of the tree planting program and copies of the documents relating to the approvals granted to each yard by the consultant, Grama Niladari Divisional Secretary and Local Government Authority, satisfaction letters from the relevant land owners and SEDA were included in the report. A sample report on the environmental safeguards' compliance is given Annexure 6.

## 5.6 Environmental Safeguards Issues in packages where Construction Work has been Abandon or with Slow Progress

Construction works in some roads in the R1, R2, KE1, MA1, KL2 and KL3 Packages were abandoned altogether or progressed only slowly during 2018. This situation created many environmental issues related to road safety, dust generation, soil erosion, siltation of paddy fields and gardens by eroded soil and muddy conditions of the road surfaces. Because of the dearth of field level staff including ESOs in these contract packages, environmental issues could not be mitigated properly. This situation created many social issues among the communities as well as among the politicians of the respective areas.

## 6. PUBLIC CONSULTATIONS AND INFORMATION DISSEMINATION

Before starting any physical works, awareness meetings were conducted in respect of all roads that were to be improved or rehabilitated under PIC03 with the formation of the Grievance Redress Committee (GRC) and with the participation of PIU, PIC and contractors' staff. Information on construction activities, social and environmental safeguard compliance of the projects, Grievance Redress Mechanism (GRM) and community participation in the project activities were explained at these meetings at which community members interacted with project partners.

A public information notice in the local languages was displayed at common places of the project areas. The purpose of the notice was to create awareness among the communities on the project, make them understand the extent to which the community can get involved in the project activities and how they can make complaints, suggestions and requests to project authorities. The public information notice displays key information about the project and the contact numbers of the relevant officers of the project who could be contacted regarding social and environment related issues.

The following five officers attached to PIU & PIC were designated to receive complaints.

<b>PIC</b>	<b>PIU</b>
<ul style="list-style-type: none"> <li>▪ Environmental Specialist</li> <li>▪ Social/Gender/Resettlement Specialist</li> </ul>	<ul style="list-style-type: none"> <li>▪ Project Engineer</li> <li>▪ Environment          Safeguard Officer</li> <li>▪ Social Safeguard Officer</li> </ul>

An information leaflet was distributed among the public who lives along the road corridor. This leaflet contained information on road survey markings and other relevant information.

Complaint/Suggestion and Request Boxes placed at the work sites are identified as one of the most effective methods to share views of the public during design and construction stages of the roads.

These boxes were placed at the site offices of the contractors, offices of the Grama Niladharis and public places located within the construction sites. The project management team is expected to collect the complaints, suggestions and requests from the boxes weekly.

PIC has introduced a common format for the Complaints/Suggestions and Request boxes to ensure their uniformity among all six districts of the PIC (3).

## **7. PROGRAMS AND ACTIVITIES CONDUCTED TO ENHANCE THE ENVIRONMENT**

### **7.1 Programs and Activities Conducted by Contractors to Enhance the Environment**

Several programs and activities were conducted by the contractors of PIC03 for environmental conservation depending on their capacities and commitments. A majority of these programs were training and educational programs on environmental conservation targeted at school children and community members. Several tree planting programs were also conducted by some of the contractors, in addition to the contractual requirements of road rehabilitation and improvement. However, the number of programs and activities that the contractors could conduct to enhance the environment was limited because of the financial difficulties most of them faced and the non-availability of SEOs. A summary of the programs and activities conducted by contractors are presented in Tables 7.1.1 to 7.1.5 with their details given in Annexure 6. The summary of the environmental training /awareness programs conducted by the contractors are given in Tables 7.2.1 to 7.2.4 with their details given in Annexure 7.

**Table 7.1.1 Summary of the programs and activities conducted by the KA 2 Contractor to enhance the environment in the Kandy District**

Road No.	Description of the work done	Type of contribution made by the contractor	Benefits to the environment
Road No. 19	Site clearing of Sri Agrabodhi Viharaya – Agaraoya on 20 January 2018	Excavation and clearing of the area	Enhanced the surrounding environment of the religious place
Road No. 24	Site clearing of “Panvilathenna Sewapiyasa” on 14 February 2018	Excavation and clearing of the area	Enhanced the surrounding environment of Panvilathenna Sewapiyasa

**Table 7.1.2 Summary of the programs and activities conducted by the NE 1 Contractor to enhance the environment in the Nuwara Eliya District**

Road No.	Description of the work done	Type of contribution made by the contractor	Benefits to the environment
	Waste collection at the road from Rikillagaskada to Nuwara Eliya organized by the Education Department at Hanguranketha	Provided refreshments to the participants	Clean environment.

**Table 7.1.3 Summary of the programs and activities conducted by the NE 2 Contractor to enhance the environment in the Nuwara Eliya District**

Road No.	Description of the work done	Type of contribution made by the contractor	Benefits to the environment
City, Nuwaraeliya	Extended support for the solid waste management program conducted by the Education Office in June	Provided refreshments and books on the environment	Clean environment

**Table 7.1.4 Summary of the programs and activities conducted by the NE 3 Contractor to enhance the environment in the Nuwara Eliya District**

Road No.	Description of the work done	Type of contribution made by the contractor	Benefits to the environment
41	A proper drainage system was constructed to protect the marshy land adjoining the road.	Provided manpower and materials	Preservation of valuable flora and fauna

**Table 7.1.5 Summary of the programs and activities conducted by the R 3 Contractor to enhance the environment in the Ratnapura District**

Road No.	Description of the work done	Type of contribution made by the contractor	Benefits to the environment
35	Environmental awareness meeting	Provided funding and resource persons	Bio-diversity conservation
04	Environmental awareness meeting	Provided funding and resource persons	Environmental protection



**Table 7.2.1 Environmental training /awareness programs conducted during the reporting period by KA 2 Contractor in the Kandy District**

Venue	Description of the training programs (including topics of the program)	Resource person/s	No. of participants		Contribution made by the contractor
			Males	Females	
Main office	Special program on environment and safety precautions	Environmental and Social Safeguard Officer	20	5	Organization

**Table 7.2.2 Environmental training /awareness programs conducted during the reporting period by NE1 Contractor in the Nuwara Eliya District**

Venue	Description of the training programs (including topics of the program)	Resource person/s	No. of participants		Contribution made by the contractor
			Males	Females	
Main Office	Special program on environment and safety precautions	Environmental and Social Safeguards Officer	20	5	Organization

**Table 7.2.3 Environmental training /awareness programs conducted during the reporting period by R3 Contractor in the Ratnapura District**

Venue	Description of the training programs (including topics of the program)	Resource person/s	No. of participants		Contribution made by the contractor
			Males	Females	
Main Office	Special program on environment and safety precautions	Mr. Mangala Wijesinghe (Consultant- Assistant ESO)	12	50	Funding

**Table 7.2.4 Environmental training /awareness programs conducted during the reporting period by KL 2 Contractor in Kalutara District**

Venue	Description of the training programs (including topics of the program)	Resource person/s	No. of participants		Contribution made by the contractor
			Males	Females	
All roads	Land donation process in the Kalutara District on 21.8.2018 (Image 7.1.23,7.1.24 and 7.1.25)	Mr. Saranga Gajasinghe	20	5	Organization of the program and the field visit to road ID 53. Arranged lunch for the participants.



**Image 7.2.4.1 Awareness program on the land donation process conducted by Mr. Saranaga Gajasinge, ADB Specialist CSD for KL2 on 21 August 2018**



**Image 7.2.4.2 Awareness program on land donation process conducted by Mr. Saranaga Gajasinge, ADB Specialist CSD for KL2 on 21 August 2018**



**Image 7.2.4.3 Awareness program on land donation process conducted by Mr Saranaga Gajasinge, ADB Specialist CSD for KL2 on 21 August 2018**

## 7.2 Video Films on the Completed Roads in PIC03

The best evidence of the environmental compliance of the project could be provided through video presentations showing the conditions of the road before and after the rehabilitation/improvement of the road. Accordingly, 25 video films were prepared on the roads completed during the previous reporting period. The details of the 14 video films prepared for this reporting period are presented in Table 7.3.

**Table 7.3 Details of the video films prepared during the reporting period**

District	Package	Road ID No.	Name of the road
Kandy	KA1	21	Angammana Nikathenna Road
		47	Digana Aluthwatta Road (Aluthwatta No.10junction) - Parana Gagapitiya Road
	KA3	38	Poththapitiya Weligodapola Main Road to Anludeniya School to Paragoda Gonathenna Road
Nuwaraeliya	NE2	17	Lower Pundaluoya to Upper Shingama Road
		28	Kandapola Heatherset Estate Road
Ratnapura	R3	34	Ambagahayaya Junction - 8th Mile Post via Mahayaya
		27	Amunukaraya Junction to Gabbela Digandala via Demumawatta Road
Kegalle	KE2	34	Hapudeniya - Malwana Road
		63	Ambepussa Dadli Senanayaka Mawatha
	KE3	64	Elbert Senevirathne Mawatha - Kegalle
		42	Wanduragoda Temple Junction (Mawanella-Hemmathagama Road) Aluthnuwara
Kalutara	KL1	83	Panape Ketagoda Millaniya Road
		93	Atalugama Mubarak Mawatha
	KL3	82	Rathmalgoda Deerananda Mawatha

## 8. CONCLUSIONS AND RECOMMENDATIONS

### 8.1 Conclusions

- 1 The report included the steps taken by the Project Implementation Unit (PIU), Project Implementation Consultants (PIC) and contractors to comply with the requirements set out in the Environmental Assessment Review Framework (EARF), loan agreement and Facility Administration Manual (FAM).
- 2 The report deliberates on the measures taken by the project team to comply with the environmental safeguard requirements set out in the loan documents and other relevant documents related to environmental safeguards such as the loan agreement, FAM, EARF, IEE and environmental checklist.
- 3 Four contract packages of PIC03 were abandoned and the work of two contracts progressed slowly during the last six months creating many environmental issues such as dust pollution, soil erosion, siltation of water bodies and poor road safety.
- 4 Project Managers, Deputy Project Managers, Site Engineers and Environmental and Safeguards Officers (ESO) of the contractors and Social and Environmental Development Assistants (SEDA) of the Consultant are being changed regularly creating many difficulties in maintaining compliance with the environmental safeguard requirements of the project. Thirty-nine Environmental and Safeguards Officers (ESO) of the contractors and 12 Environmental Development Assistants (SEDA) of PIC were changed and there was not a single Environmental and Safeguards Officer for the whole project during the reporting period.
- 5 Compliance with the environmental safeguard requirements of the project is at a high level due to the commitment of the staff, Site Engineers (SE), and Environmental and Social Officers (ESO) and the guidance and advice given by the staff of the consultant.
- 6 Guidance and assistance given by the ESDD of RDA and ADB CSD/SG Specialist highly contributed to improve the environmental safeguards of the project as well as to comply with the environmental requirements.
- 7 The environmental team (ESO and ESA) attached to PIU cooperated with PIC and contractor's staff with good commitments displayed during the implementation of the safeguard's requirements of the project.
- 8 The attitudes and commitments of the engineering field staff highly assisted in the implementation of safeguard requirements of the project and bringing it to a high level.
- 9 Training of project staff including engineering staff by Dr. K. M. P. S. Bandara, Focal Point (Environmental and Natural Resource), ADB SLRM on the Specific Environmental Monitoring System (SEMS) contributed very much to introducing the Site-Specific Environmental Monitoring System (Online) to the project which is to be fully implemented next year.

## 8.2 Recommendations

Following recommendations are made to improve the environment safeguard component of the iRoad program.

- a) To limit future iRoad projects to one province.
- b) To further improve the level of monitoring by providing separate officers for PIC district wise with facilities for environmental and social safeguards.
- c) To appoint separate safeguards officers for social and environmental safeguards by the contractor of each package.
- d) To conduct more workshops/training programs on sharing experience among the staff of the contractor, PIU and PIC on environmental safeguard requirements.
- e) To fully implement the Specific Environmental Monitoring System (Online) during the year 2019.



**ANNEXURES ARE AVAILABLE ON REQUEST**