

Environmental Monitoring Report

Semi-Annual Report no. 7
For the period covered January to June 2020
Project Number: 47381-002
September 2020

Sri Lanka: Mahaweli Water Security Investment Program – Tranche 1

North Western Province Canal Project (NWPCP), Part 1 of 2

Prepared by Ministry of Mahaweli Development and Environment with the assistance of Program Management, Design and Supervision Consultant (Joint Venture Tractebel Engineering GmbH – GeoConsult ZT GmbH) for Democratic Socialist Republic of Sri Lanka and the Asian Development Bank.

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Mahaweli Water Security Investment Program

Semi Annual Environmental Monitoring Report (SAEMR) No. 07 for North Western Province Canal Project (NWPCP) (January to June 2020)



Ministry of Irrigation
Sri Lanka



September 2020

Final Report

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SAEMR No. 07 for NWPCP

Project Number H.503409

Subject Project Report

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Project Title: **Mahaweli Water Security Investment Program**

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ABBREVIATIONS

ADB	Asian Development Bank
ABOP	Air Blast Over Pressure
BFO	Beat Forest Officer
CEA	Central Environment Authority
CSCEC	China State Construction Engineering Corporation
DWC	Department of Wildlife Conservation
EIR	Environment Incident reports
EO	Environment Officer
EPL	Environmental Protection License
FFPO	Fauna and Flora Protection Ordinance
H&S	Health and Safety
EHS	Environment, Health and Safety
EMS	Environment Monitoring Specialist
EIA	Environment Impact Assessment
E -NCR	Environment Non-conformity Record
EMP	Environment Management Plan
FD	Forest Department
GRM	Grievance Redress Mechanism
LHS	Left Hand Side
NWPCP	North Western Province Canal Project
NWS&DB	National Water Supply and Drainage Board
MI	Ministry of Irrigation
MS	Method Statement
O&M	Operation and Maintenance
PIU	Progress Implementation Unit

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1 INTRODUCTION

1.1 Scope of the Report

1. This Semi Annual Environmental Monitoring Report (SAEMR) No. 7 is prepared to update reporting of the progress of North Western Province Canal Project (NWPCP) with respect to environmental safeguard aspects for the period of January to June 2020, which fulfils the Asian Development Bank's (ADB) requirement to submit a SAEMR to ADB and the Central Environmental Authority (CEA) for the "Category A" projects as documented in the FAM¹ and EARF.²

2. The purpose of this report is to monitor whether the Project is implemented with due concern for environmental and social safeguards according to the ADB's Safeguard Policy Statement (SPS) 2009, and specifically to ensure that these issues are adequately addressed in compliance with the requirements of ADB. Further, this report is to assess the progress with implementation of the program in complying with the approved Environmental Impact Assessment (EIA),³ including: (i) the Addendum to the EIA: NWPCP Tranche 1 packages (May 2017) and Environmental Management Plan (EMP) as per the stipulation No. 14.3 of the EIA approval No. 08/EIA/WATER/07/2012 issued by CEA of 23 February 2016; (ii) renewed approval by CEA on 11.03.19 by letter Ref. Ref.08/EIA/Water/07/2012 /Vol 3, which is valid until 23 Feb 2022; and (iii) approval for the addendum (Ref.08/EIA/Water/07/2012/Vol 2 dated 11 April 2018).

3. This SAEMR is prepared addressing the following aspects, based on the available information as at the end of the monitoring period from January to June 2020:

- (i) Background/ context of the monitoring report (information on the project, including physical progress of project activities, scope of monitoring report, reporting period, and the monitoring requirements including frequency of submission as agreed upon with ADB).
- (ii) Changes in project scope and adjusted safeguard measures.
- (iii) Environment qualitative monitoring data.
- (iv) Monitoring results compared against previously established benchmarks and compliance status (e.g., obtaining necessary approvals for establishment of certain facilities, national environmental emission and ambient standards and/or standards set out in the World Bank's (WB's) Environmental Health and Safety (EHS) guidelines; timeliness and adequacy of environmental mitigation measures; and training, capacity building, etc.).
- (v) No major gaps identified other than the general project induced impacts in the NWPCP area, and hence there was no requirement of preparing a "Corrective action plan" during the reporting.
- (vi) Records on disclosure of monitoring information to affected communities.
- (vii) Identification of key issues, or grievances from affected people, or recommendations for improvement.
- (viii) Proposed items of focus for the next reporting period and due date.

4. This SAEMR for the NWPCP is prepared by the Environmental Specialist (ES) of the Program Management Design and Supervision Consultant (PMDSC) based on the monthly monitoring and progress reports received from the Environmental Monitoring Specialist (EMS) of PMDSC, and the updates which were received from the Environmental Specialist (ES) of PMU and Senior Environmental Officer (SEO) for PIU of NWPCP. Further, the report contains the observations and records of the ES of PMDSC made as per the site visits attended once a month, including records of monthly environmental meetings, and records of the random visits take place when significant environmental incidents are reported. However, due to the movement restrictions imposed by the GoSL during the period from March to May 2020, the sites were also closed involving only the maintenance work and hence the periodical site visits were limited by the PMDSC only to the days where the curfew was lifted until the curfew passes were arranged for the monitoring staff by Mid-April 2020.

¹ Paragraph 60 of Facility Administration Manual (FAM), June 2015 prepared by MMDE.

² Paragraph 111 of Environmental Assessment Review Framework (EARF) November 2014 (updated in June 2017) by MMDE.

³ Environmental Impact Assessment Report (EIAR) dated June 2015 and approved by CEA on 31.03.2016.

1.2 Overall Progress of NWPCP as of June 2020

5. There are two active packages where construction is ongoing, which are NWPCP-NCB-1 and NWPCP-ICB-2 and the summary of the active packages is given in the **Table 1-1**.

Table 1-1: Summary of ongoing construction packages in the NWPCP

Item	NWPCP-NCB-1	NWPCP-ICB-2
Contract No.	MMDE/MWSIP/ADB/NWPCP/NCB-1/3267-3268-SRI/NCB/2016/001	MMDE/MWSIP/ADB/NWPCP/NCB-1/3267-3268-SRI/NCB/2016/001
Contractor	M/s. NEM Construction (Pvt) Ltd.	China State Engineering Corporation Ltd
Commencement Date	29 December 2016	01 November 2018
Value of Contract	LKR 926,113,863.39 (incl. VAT)	LKR 7,226,621,051.00 (incl. VAT)
Original Completion Date	27 December 2018	06 May 2021
Engineer's Forecast of Completion	28 February 2021	03 March 2022

1.2.1 NWPCP-NCB-1

6. Scope of the NWPCP-NCB-1 package is comprised of improvements to the existing Wemedilla Left Bank Main Canal up to Nabadagahawatta (0 km to 5+250 km) and construction of a new sluice and tail canal (0 km to 0+600 km). NWPCP-NCB-1 construction works, which were resumed in November 2019, has a contractual completion date in November 2020. The actual physical progress by the end of June 2020 is recorded as 82%, which is behind the planned progress of 95%.

7. **Figure 1-1** shows the graphical representation of the overall progress of the NWPCP-NCB-1 package by end June 2020.

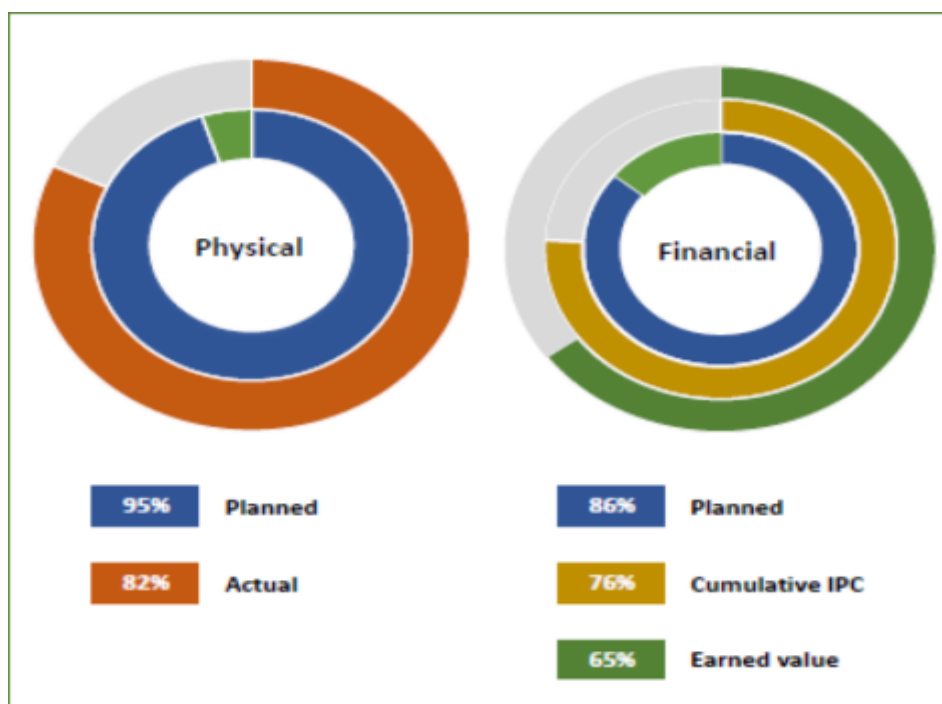


Figure 1-1: Overall package progress of NWPCP-NCB-1 as of end June 2020

1.2.2 NWPCP-ICB-2

8. The NWPCP-ICB-2 package comprises the construction of the main canal from Nabadagahawatta to Mahakithula Reservoir inlet tunnel (from 5+250 km to 22+500 km), which anticipates a significant amount of environmental impacts due the environmental sensitivity of the project area. The two sections, 18+503 km to 19+650 km and 20+700 km to 22+300 km, fall within the Kahalla-Pallekele Wildlife Sanctuary under the jurisdiction of Fauna and Flora Protection Ordinance (FFPO). The land ownership is with the FD as the canal trace traverses through Kahalla-Pallekele Forest reserve.

9. About 19 months after starting the construction in NWPCP-ICB-2 package, the actual construction progress is recorded as 25% by end of June against the planned construction progress of 70%. **Figure 1-2** shows the graphical representation of the overall progress of the NWPCP-ICB-2 package by end June 2020.

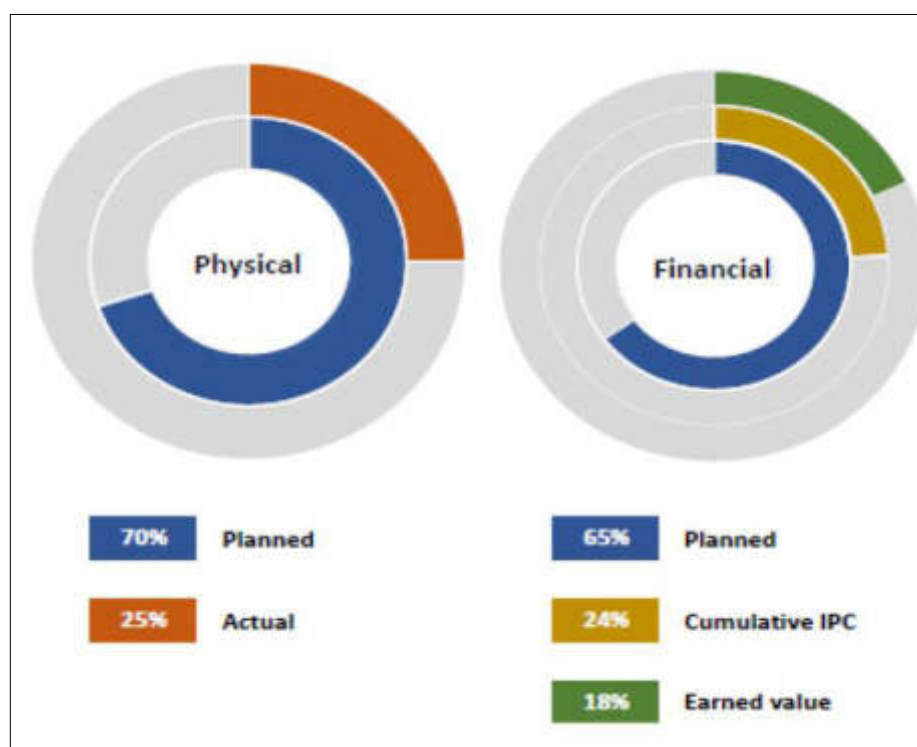


Figure 1-2: Overall package progress of NWPCP-ICB-2 as of end June 2020

10. Maps of the NWPCP-NCB-1 and NWPC-ICB-2 project areas are shown in **Figure 1-3** and **Figure 1-4**.

1.2.3 Pipeline packages under NWPCP Tranche 3

11. **Table 1-2** summarizes the progress of rest of the ICB packages pipeline under NWPCP.

Table 1-2: Status of other packages pipeline under NWPCP

Package	Description	Progress by end June 2020
NWPCP-ICB 1	Construction of Mahakithula Inlet Tunnel, Mahakithula and Mahakirula Reservoirs, Feeder Canal from Mahakithula to Mahakirula Reservoir	<ul style="list-style-type: none"> Bidding process completed and ADB approval granted. Waiting for Cabinet approval to award the contract PMU is in progress with the ADB shopping procedure to select a

Package	Description	Progress by end June 2020
		<p>consultant to carry out baseline ecological surveys in the ICB 1 affected area</p> <ul style="list-style-type: none"> ▪ PMDSC involved in the demarcating site boundaries to commence tree enumeration by the FD ▪ EMP shall be updated by PMDSC, incorporating new findings of the above surveys
NWPCP-ICB-3	Construction of Feeder Canals to Kaduruwewa (20.9 km), Pothuwila (2.0 km), Upper Mediyawa (19.9 km) and Yapahuwa (8.9 km)	<ul style="list-style-type: none"> ▪ Updated EMP completed and submitted to PMU along with the bidding documents. Bidding documents ▪ Waiting for PMU decision to attend further work
NWPCP-ICB-4	Construction of North Western Province Canal from Dambulu Oya to Wemedilla LBMC (0+000 km to 8+575 km) and Diversion Structure	<ul style="list-style-type: none"> ▪ Link canal from Dambulla Oya to NWPC is replaced by Bowatenna Tunnel 2 (BT2) ▪ Geotechnical investigations in progress, tender documents to be submitted to PMU in 2021. ▪ Preparation of Basic Information Questionnaire (BIQ) is completed and will submit to PMU in Q3 2020



Figure 1-3: Map of NWPCP-NCB-1 Project area

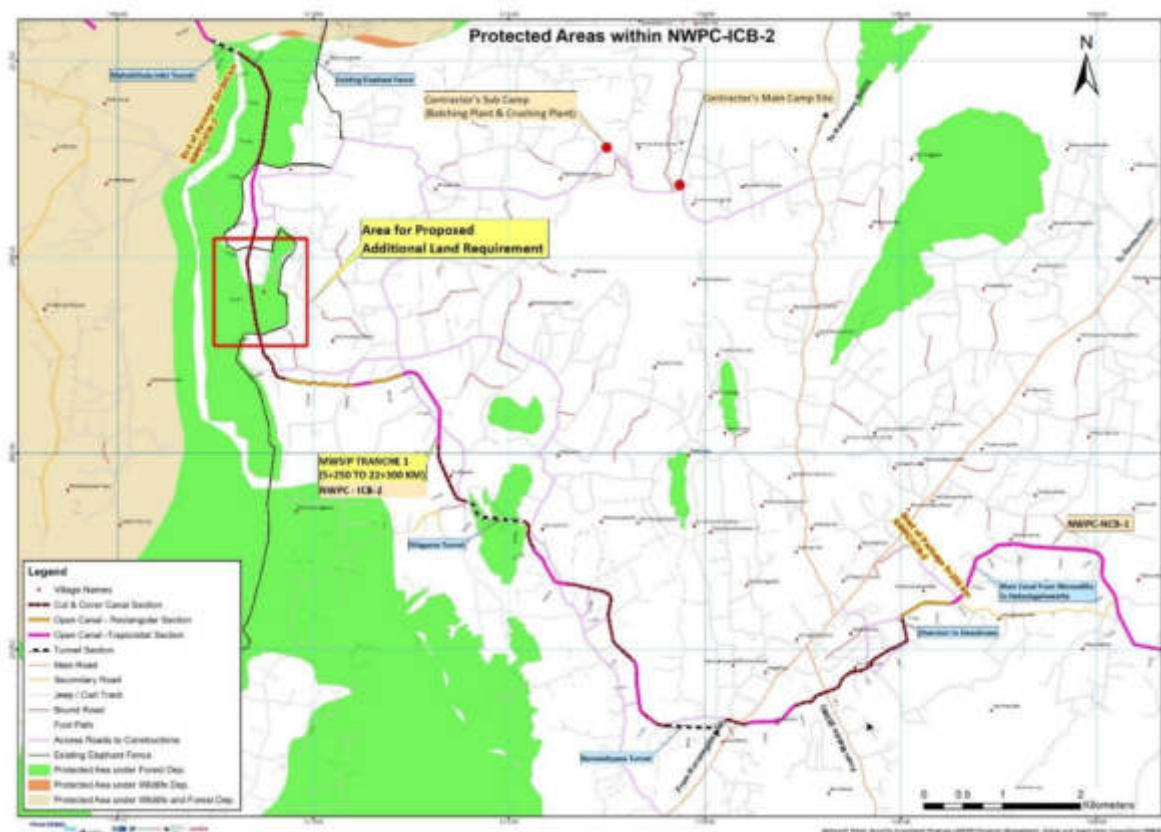


Figure 1-4: Map of NWPCP-ICB-2 Project area

2 CHANGES IN PROJECT SCOPE AND ADJUSTED SAFEGUARD MEASURES

2.1 Scope change due to Covid-19 pandemic situation

12. The project scope was changed mainly related to the Covid-19 pandemic situation faced by Sri Lanka, and hence the construction sites were almost abandoned from mid-March to mid-May 2020. Several environmental impacts were anticipated during the Site closure period, where the construction packages fall within environmentally sensitive areas (residential, wildlife, forest protected areas etc.) related to NWPCP-NCB-1 and NWPCP-ICB-2 packages.

13. Considering the anticipated impacts, PMDSC prepared an Environmental Emergency Action Plan (EEAP)⁴ (Refer **Annex 1**) and shared this with the contractors, directing them to submit their site-specific environmental action plan for the regular site maintenance to prevent any environmental risks. In addition, site specific environmental monitoring was attended by the EMS at regular intervals by arranging special permission (curfew passes) during the lockdown period, through the ministry for site visits adopting required safety arrangements. EMS produced regular monitoring records to update RE on significant environmental issues.

14. Obtaining startup plans from the contractors was arranged, incorporating environmental safeguard requirements from early May 2020, and to facilitate the contractor, PMDSC prepared on 21 May 2020 a Guidance Note on Updating Contractor's Environmental Management Plan (CEMP) adhering to the ADB requirements and guidelines (Refer **Annex 2**).

2.2 Package specific scope changes

15. In NWPCP-NCB-1 area there are no site-specific scope changes, but in NWPCP-ICB-2 area there are a few scope changes identified as per the request made by CSCEC, contractor of NWPCP-ICB-2. A summary of the identified changes and the corresponding actions taken is presented in **Table 2-1**.

Table 2-1: Summary of scope changes related to NWPCP-ICB-2

Change of scope	Adjusted Safeguard measures	Current Status
Requirement of additional Right of Way (RoW) for disposing excavated material as well as to use as O&M road during construction period	<ul style="list-style-type: none"> CSCEC has been advised by the social experts to rent the lands on a written agreement with the consent and approval of the relevant Grama Niladhari and the representative of the Local Government Authority or the Divisional Secretary For recording purpose, the RE and PIU staff was made aware by the social expert of ADB to obtain the documents from the Contractor indicating the chainages, additional width obtained on a rental agreement and proofs of the approvals, agreements with a layout plan indicating the boundaries, records of existing land use, purpose of land use during the construction period and the restoration plan. The Contractor was advised to demarcate the boundaries of such additional areas on ground. 	<ul style="list-style-type: none"> A tri party agreement is signed between the PD-PIU, landowner and the contractor witnessed by Grama Niladhari before handing over the additional land for temporary access purposes. The format of the tri party agreement is attached in Annex 3 for reference.
Additional RoW in the wildlife areas for construction (20+760 km to 22+300 km): New proposal was submitted by	<ul style="list-style-type: none"> PMDSC responded CSCEC through letter Ref. PMDSC-NWP Site/ICB 2/ CSCEC/0798 on 15 Jan 2020 explaining to use engineering alternatives to manage with the approved RoW indicating the significant impact that can be created by disturbing forest habitats in the sanctuary area. 	<ul style="list-style-type: none"> As per RE's directions PMDSC ES and EMS carried out an environmental screening on the proposed additional

⁴ Environmental Emergency Action Plan (EEAP) prepared by PMDSC and submitted to PMU on 28 March 2020 and report addressing ADB and PMU comments were issued to the contractors in early April 2020.

Change of scope	Adjusted Safeguard measures	Current Status
CSCEC though letter Ref. CSCEC-ICB 2- PMDSC-896 on 24 Dec 2019 and CSCEC-ICB 2- PMDSC-1107 on 21 Feb 2020 which was contradict to the original MS submitted by CSCEC through letter Ref. CSCEC-ICB 2- PMDSC-523-2019 on 28 Aug 2019	<ul style="list-style-type: none"> Joint inspection was made led by PD-PMU and the team on 13 March 2020 to understand the site situation, and CSCEC was informed by RE through letter Ref. PMDSC-NWP Site/ICB 2/ CSCEC/1057 on 09 April 2020 explaining the methodology to be adopted by CSCEC working with the limited RoW, which should be feasible with the existing geological conditions of the area However, the Contractor did not accept the proposal and hence Engineer studied possible options to provide minimum RoW With review comments of the PMDSC, a revision to Method Statement was requested 	<p>areas on 30 June 2020.</p> <ul style="list-style-type: none"> The brief report will be submitted to CEA and DWC requesting approval from DWC Awaiting duly revised MS from contractor confirming necessary additional space, possible environmental impact, and proposed mitigations etc. in order to get approval from DWC, FD and CEA as applicable.
CSCEC proposed construction of elephant fence (18+503 km to 18+955 km) blocking animal path in the sanctuary area and claimed for progress delay through letter Ref. CSCEC-ICB 2- PMDSC-1147 on 04 March 2020 and CSCEC-ICB 2- PMDSC-11201 on 20 March 2020	<ul style="list-style-type: none"> The request was denied by PMDSC through letter Ref. PMDSC-NWP Site/ICB 2/ CSCEC/1027 on 30 March 2020 explaining below reasons: <ol style="list-style-type: none"> letter Ref. CSCEC-ICB2-PMDSC-1147 dated on 04th March 2020 contradicts with the Method Statements (MS) submitted agreeing that the construction work shall be completed section wise, first completing 19+652 km - 19+135 km section and then moving to the next section of 19+135 km to 18+503 km (Ref. CSCEC-ICB 2-PMDSC-1059 and 466). PMDSC EMS and SEO of PIU-NWPCP has informed their disagreement on this proposal justifying with the technical reasons at the Monthly Progress Review Meeting held on 05th March 2020. approval by CEA and DWC for the addendum No.2 to EIA – NWPCP submitted on 23rd August 2019 (Ref. 25.6_L03226) was granted based on CSCEC proposal Ref. CSCEC-ICB 2-PMDSC-466 dated 08th August 2019 considering the agreement of section wise construction, complying with the requirements agreed with Department of Wildlife Conservation (DWC) ensuring free animal movements inside the sanctuary area Further it was explained that multispecies animal corridor, or movement path should have a minimum of 0.5 km to 1.5 km width, and this area is identified with abundant wildlife movements due to the edge effect of the protected area and considering the abundance of water resources during the dry season. So, a passage of 100 m is of no value, and would block the path to the 2 main water sources 	<ul style="list-style-type: none"> As updated with the previous SAEMR no. 6, proposal to construct a new pond away from the construction area closer to the previous pond was approved by the DWC through letter WL/6/1/1/321 dated 08 November 2019 replacing existing water hole at 18+503 which is to be disturbed by construction work RE and CSCEC to start on this alternative arrangement prior to block the area by constructing electric fence. Otherwise it could increase HEC in the area

16. Further to the information provided in the SAEMR NWPCP No. 6 on the Technical Note (TN) prepared by PMDSC upon the request of CSCEC (NWPCP-ICB-2) for additional Right of Way (RoW) in the wildlife protected area (from 18+503 km to 19+650 km) and fencing arrangement which was submitted to DWC and CEA through PMU on 23 Aug 2019, PMU informed PMDSC which option was approved on 23 January 2020, considering the DWC & FD concurrence.

17. Accordingly, the CSCEC was informed through letter Ref. PMDSC-NWP-Site/ICB 2/CSCEC/0847 on 27.01.2020) to start construction in the respective chainage located inside the DWC protected area, as per the Option 1 (See **Figure 2-1**) included in TN.

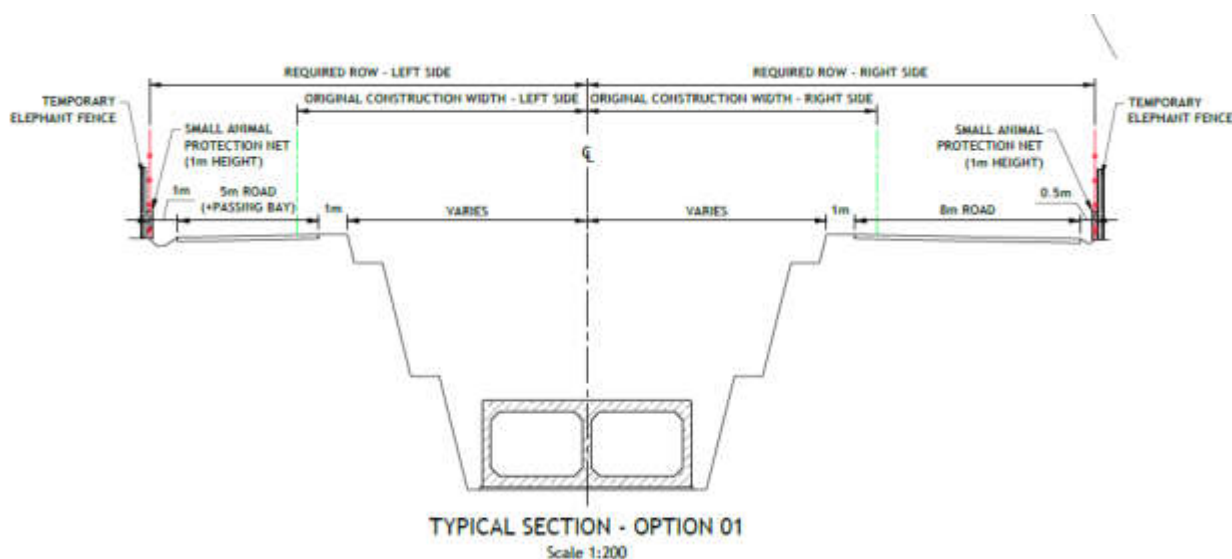


Figure 2-1: Typical section to install both electric fence and small animal protection net at the edge of approved additional RoW

18. Further CSCEC was advised to follow all required conditions in close liaison with DWC and PMDSC recommendations, as notified on 15 January 2020 (Ref. PMDSC-NWP-Site/ICB 2/CSCEC/0798).

3 ENVIRONMENTAL MONITORING IN NWPCP

3.1 Organizational set up for NWPCP Environmental Monitoring & Reporting

19. The Resident Engineer (RE) appointed for each NWPCP contract package under the PMDSC assumes primary responsibility for ensuring the implementation of Contractor's Environmental Management Plan (CEMP) through the respective contractor. The relevant required actions will be guided by the ES and EMS of PMDSC.

20. The environmental monitoring of the all NWPCP packages, including review of Method Statements, attending relevant meetings, and all package-specific additional surveys on active and future packages under NWPCP are handled by the EMS of PMDSC located in the CRE office - Dambulla. In addition, overall guidance for the contractor's Environmental Officer (EO) to identify issues through self-monitoring, attending to required mitigation measures, obtaining required license and approvals, awareness and training for the environmental related aspects are handled by the EMS under the coordination and assistance by the ES- PMDSC.

21. The environmental issues, non-compliance status observed by EMS during routine site monitoring, as well as through the public complaints, are informed to the RE for the duly communication to the Contractor to attend required corrective actions with the guidance of EMS and ES of PMDSC.

22. The Contractor is guided to implement required mitigation measures in the updated EMP for the generic environmental issues, and for the site-specific issues comments are made on the submitted Method Statements (MS), Environmental Incident Reports (EIR), Non-Compliance Report (NCR), and through letters. In addition, periodical environment meetings, joint inspections are being used to deliver verbal instructions where necessary by PMDSC, PIU and PMU.

23. The key meetings, inspections and surveys carried out by the EMS and ES PMDSC related to NWPCP are summarized in the **Table 3-1**.

Table 3-1: Key meetings, stakeholder consultations and joint inspections attended by the environmental team of PMDSC, PIU and PMU related to NWPCP

Works	Dates		Remarks
	ICB 2	NCB 1	
January - 2020			
Environmental Meeting	02 nd	02 nd	
Site Meeting	22 nd	23 rd	
Grievance Meeting	13 th	N/A	With International Social specialist – PMDSC, PIU, PMU, contractor relevant staff
Site Inspections	6 th , 8 th , 16 th , 17 th , 18 th , 21 st , 24 th , 27 th , 28 th , 30 th	8 th , 16 th , 21 st , 30 th	
Joint Site Inspections	02 nd	02 nd	With PMDSC, PIU, PMU, contractor relevant staff
Grievance Site Inspection	13 th , 14 th	N/A	With International Social specialist of PMDSC, PIU, PMU, contractor relevant staff
Environmental Screening	4 th	N/A	Of selected stockpile locations prior to approve
Special Meeting	31 st		PM & DPM of CSCEC, RE-ICB2, CRE, ES, EMS of PMDSC on Batching Plant environment non-compliance issues
February - 2020			
Environment Meeting	5 th	5 th	
Site Inspections	3 rd , 6 th , 12 th , 16 th , 17 th , 20 th , 21 st , 26 th	21 st , 26 th	

Works	Dates		Remarks
	ICB 2	NCB 1	
Joint Site Inspection	N/A	5 th	With PMDSC, PIU, PMU, contractor relevant staff
Meeting with Independent Environmental Monitoring Specialist (IEMS)	5 th	N/A	
Special Meeting	6 th	N/A	RE-ICB2, IEMS, EMS on Batching Plant issues
Special Meeting	7 th		With PD-PIU, ES-PMU, SEO of PIU, RE-ICB2, EMS of PMDSC DPM of CSCEC and the villagers about Batching Plant issues
Special Meeting	12 th		CRE, IEMS, EMS
Special Meeting	22 nd		DWC office at Pibidunagama, Rajarata Uni biodiversity survey and translocation team, EMS regarding Biodiversity Survey and Species Translocation in ICB2
Biodiversity Survey and Species Translocation in the area tree felling continued	23 rd , 24 th , 25 th		Within Kahalla Palkeleke sanctuary and Forest reserve conducted by Rajarata Uni biodiversity survey and translocation team
March - 2020			
Site Inspections	1 st , 6 th , 7 th , 8 th , 12 th , 17 th , 19 th , 23 rd , 26 th , 30 th	7 th , 12 th , 13 th , 17 th	
Biodiversity Survey in Nilagama tunnel areas	15 th		With the participation of Rajarata Uni biodiversity survey and translocation team
April - 2020			
Site Inspections	01 st , 06 th , 09 th , 16 th , 17 th , 20 th , 22 nd , 28 th , 30 th	1 st , 9 th , 22 nd , 29 th	
Joint Site Inspection	22 nd	N/A	With SEO of PIU CSCEC's Mr. Hao and Mr. Hung, EMS of PMDSC
Special Meeting	6 th	N/A	Via Skype
Special Meeting	15 th	N/A	Via Skype
May - 2020			
Site Meeting	21 st	29 th	
Site Inspections	5 th , 6 th , 9 th , 13 th , 16 th , 18 th , 20 th , 26 th , 28 th , 30 th	4 th , 12 th , 21 st	
Special Meeting	19 th		With Rajarata University biodiversity survey and translocation team
Biodiversity Survey – Nilagama and DWC area	22 nd , 23 rd		With Rajarata University biodiversity survey and translocation team
June - 2020			
Progress Meeting	10 th	16 th	
Grievance Meeting	2 nd	N/A	Aluthwewa GN
Site Inspections	1 st , 2 nd , 4 th , 6 th , 9 th , 12 th , 13 th , 15 th , 17 th , 19 th , 23 rd , 27 th , 29 th , 30 th	4 th , 10 th , 19 th	
Joint Site Inspection	2 nd	N/A	
Grievance Site Inspection	2 nd	N/A	
Special Meeting	3 rd	N/A	Meeting with RE NWPCP ICB 2, PM CSCEC and ES, EMS of PMDSC regarding additional land requirement within DWC area
Special Meeting	24 th	N/A	Meeting with Dr. Shriyani, TL of Rajarata Uni biodiversity survey and translocation team to finalize the translocation report

Works	Dates		Remarks
	ICB 2	NCB 1	
Special Meeting	29 th	N/A	With PMDSC 's ES and EMS with the participation of PIU's SEO with CSCEC's PM, DPMs (Mr. Lee and Mr. Hao) and EO to discuss current environmental issues in the site and to get CSCEC's involvement to solve issues

3.2 Monitoring Records in NWPCP-NCB-1 and ICB-2 (January to June 2020)

24. The construction activities were limited during the monitoring period particularly from March to May 2020 due to Covid-19 pandemic situation. The following sections summarize the Contractor's environmental safeguard compliance status as per the monitoring records of EMS during his monitoring visits, and meetings held with the Contractor's representatives.

3.2.1 NWPC-NCB-1

25. Related to the NWPCP-NCB-1 site, there were no significant issues recorded during the monitoring period as there was no major work carried out and the works were limited to construction of water regulating structures, O&M road preparation along the canal etc. Hence, no Non Compliance Records (NCR) or Environment Incident reports (EIR) issued by the PMDSC for the reporting period for NWPCP-NCB-1.






26. Activities were mostly attended to during the water closure period, avoiding rainy days and hence, environmental issues such as erosion, siltation of waterways could be easily rectified by the Contractor (NEM). However, due to lack of proper attention by NEM on mitigating various simple issues, attending to corrective actions have been dragging on from the restart of construction work in November 2019. Absence of an EO for the Contractor at the site was the other drawback causing the delay in attending in a timely way to the simple corrective actions at the site. Hence, NEM was advised through the RE at the progress meetings to provide immediate attention and solve all these issues and follow standard environment safeguard practices, with active involvement of NEM's EHS key staff.







(i) Summary of site-specific environmental issues recorded in NWPCP-NCB-1







27. Although there were no significant environmental issues, NEM did not show a positive involvement in rectifying prevailing environmental concerns on erosion, dust control during dry season, water stagnation, spread of invasive species etc. and hence these issues remained unattended since Nov 2019.

28. Since NEM did not employ a fulltime EO at the site, H&S activities are managed by a single officer appointed by NEM, under the guidance of EHS manager of NEM operated from Colombo. Summary of the environmental status recorded during the monitoring period (Jan to June 2020) are described under the **Table 3-2**.

Table 3-2: Update of environmental compliance status observed during reporting period in NWPCP-NCB-1 construction area

Impact	Cause / nature of impact	Corrective actions	Remarks
Dust	<ul style="list-style-type: none"> No serious dust issue observed because of wet condition due to intermittent rain Currently no watering arrangement at the site. 	<ul style="list-style-type: none"> It was advised to arrange water bowser stand by to use when it is required, but the contractor presently use excavator for watering (see photo) Contractor was informed that it was not acceptable measure, which violate the safety rules and to use proper watering system The contractor had deployed a bowser after that 	
Construction Wastes / cement waste	<ul style="list-style-type: none"> Due to the limited work force, and as most of the concrete work is over no such records 	<ul style="list-style-type: none"> Advised regular site cleaning and NEM is attending Construction area is designated as plastic free area 	
Stockpiles	<ul style="list-style-type: none"> There is one designated stockpile manage properly and no serious issue observed. CEA approval is obtained, and the details provided under section (ii), "licence and approvals" The stockpiles are used for backfilling and O&M road construction work Some issues recorded loading, unloading of earth along the canal Due to unmanaged small piles along the canal working areas cause erosion, hindrance to surface runoff, contamination of adjacent agriculture lands, canal water (see photos) 	<ul style="list-style-type: none"> NEM was advised to be cautious during transporting of earth from stockpiles along the canal bund road to prevent dust, creating muddy roads with rains etc. 	 <p>Designated stockpile</p>   <p>Unmanaged working areas with heaps of earth</p>

Impact	Cause / nature of impact	Corrective actions	Remarks
Stagnated Water in Excavated Area	<ul style="list-style-type: none"> Stagnated water can be observed in some excavated areas (new sluice construction site) There was a risk on public health due to Mosquito breeding specially during Jan, May and June due to intermittent rains 	<ul style="list-style-type: none"> Advised dewatering to be attended time to time when required 	 <p>New sluice area</p>
Unstable slopes, coffer dam in new sluice area	<ul style="list-style-type: none"> The area is long term unattended, and coffer dam with eroded sections with risk of breaching at High water level of the Wemedilla tank 	<ul style="list-style-type: none"> Engineer was instructed to finish construction in this area and restore the coffer dam 	
Siltation due to dewatering	<ul style="list-style-type: none"> No adequate measures were taken during reporting period to control siltation (silt traps) during dewatering 	<ul style="list-style-type: none"> Advised to attend required measures, establish silt traps using natural material to control siltation along the drainage paths, but NEM did not attend the required measures 	
Blockage of Drainage Paths and Streams	<ul style="list-style-type: none"> Not Observed during monitoring period 	N/A	N/A
Soil Erosion and Siltation	<ul style="list-style-type: none"> There are many soil erosion areas were observed along the canal and cofferdam at new sluice construction site during the months of January, April, May Specially this was significant during O&M construction as loose soil was unloaded to the edges of the canal and with rains it washed off to the canal and nearby water ways Turfing done as part of BOQ work to prevent soil erosion along the canal banks 	<ul style="list-style-type: none"> Advised to use sand-bag bunds, and strengthen the slopes Advised to put a simple bund like this to avoid soil unload to the edges of the canal No adequate measures were taken during the period until the work is completed. Since the work attended most of the water closure period impact was minimal 	  
Impacts due to Blasting Works	<ul style="list-style-type: none"> No issues recorded as little blasting work was carried out Blasting approval was renewed on Feb 2020 and the 	<ul style="list-style-type: none"> Safety precautions to be followed during blasting as per approved MS 	N/A

Impact	Cause / nature of impact	Corrective actions	Remarks
	approval was valid to continue blasting work for the month of March (details provided under section (ii), "licence and approvals")	<ul style="list-style-type: none"> Conditions of the GSMB approval to be followed 	
Impacts due to Batching Plant operations	<ul style="list-style-type: none"> EPL updated (details provided under section (ii), "licence and approvals") The batching plant operation is limited and hence no significant issue recorded. However, the sedimentation pond collects stagnant water during rainy days, and housekeeping of the premises observed few issues time to time due to unsafe bar bending work, disposed sludge openly, unmanaged material stockpiles 	<ul style="list-style-type: none"> It was advised to empty sedimentation tanks when no operations take place and improve housekeeping in the area Due to the spacious area and as located in an isolated area not much effort needs to be taken for erecting dust barriers 	  
Spreading of invasive Flora	<ul style="list-style-type: none"> <i>Mimosa pigra</i> (Yoda Nidikumba) an invasive flora species can be observed edge of the cofferdam at new sluice construction site, some areas of the canal banks, some areas of O&M roadside and on stockpile close to Batching plant. <i>Typha angustifolia</i> (Hambupan) an invasive flora species can be observed in some areas of the canal. 	<ul style="list-style-type: none"> Contractor was advised to remove and destroy safely (let it dry inside a pit and then burn) However, the involvement from contractor level is not adequate PIU has implemented a separate program to eradicate those from the project affected area as a part of implementing Wildlife Management Plan (WMP) 	  

29. NWPCP-NCB-1 site is maintained well in general and all the above environmental issues can be prevented easily by attending to mitigation measures in a timely way and having a proper environmental safeguard management system in place – as stated in the Contractor's own CEMP.

(ii) License and permit status of NWPCP-NCB-1

30. NEM contractor of NWPCP-NCB-1 has updated their key license and approvals up to date as summarized in **Table 3-3**.

Table 3-3: Summary of key approval updated status

Type of Approval	Approving Agency	Validity Period
Environment Protection License (EPL) for the batching plant (Ref. 14971 – R2)	Central Environmental Authority (CEA)	07 Feb 2020 to 01 Feb 2021
Rock blasting approval (Ref. SPI/MQUR/2020/3452)	Geological Survey and Mines Bureau (GSMB)	01 March to 31 March 2020 ⁵
Stockpile of 0.25 Acres, at Kethigana village, Walaswewa GND of Galewela DSD (Ref. CEA/CPO/MT/Other/04/2017)	Central Environmental Authority (CEA)	24 Feb 2020 to 23 Feb 2021

(iii) Documentation Progress by Contractor NWPCP-NCB-1

31. With the resumption of the work in November 2019 by NEM at the Site after nearly 10 months, EMS PMDSC highlighted the requirement of updating the CEMP. Referring to the monthly progress meeting No. 24 held on 04 January 2020, NEM submitted the first draft of CEMP on 15 February 2020. With the outbreak of Covid-19, ADB emphasized the requirement for updating CEMP again, and with the reminder made by PMDSC as per the **Annex 2** issued on 21 May 2020, NEM resubmitted on 01 July 2020 their CEMP incorporating preventive measures adopted for the Covid-19 pandemic as well.

32. The submission of monthly environmental reports by NEM for the reporting period did not contain adequate information, and only 2 reports for January and June 2020 were available.

3.2.2 NWPCP-ICB-2

(i) Summary of site-specific environmental issues recorded in NWPCP- ICB-2

33. There are many environmental issues in the NWPCP-ICB-2 site which have been continuing from the beginning of the NWPCP-ICB-2 package due to lack of attention by the CSCEC on environmental safeguards aspects. **Table 3-4** summarizes the Environmental Non-compliance Records (E-NCR) or Environmental Incidents recorded during reporting period from January to June 2020.

Table 3-4: Records of E- NCR during the reporting period

#	Issue	Date of Record	Corrective Actions taken and progress summary with the dates
i.	E-NCR No.008 (Ref. PMDSC-NWP-Site/ICB 2/CSCEC/771 on 06.01.2020) - Unauthorized land clearing at 12+200 (private land located right side of the ROW), NOT follow contractor's EO instruction, NOT follow consultant's EMS instruction	04.01.2020	<ul style="list-style-type: none"> Immediately stopped work until approve the work by the Engineer confirming the receipt of relevant approval from CEA and other relevant agencies. This is a privately owned land, but due to the long-term abandoning, the land use/ habitat is a regenerated forest. EMS carried out a rapid ecological survey in the cleared area as the disturbed area was a regenerated forest habitat, reasons for rejecting the site as a disposal area was informed to CSCEC through letter Ref. PMDSC-NWP-Site/ICB 2/CSCEC/780 on 07.01.2020 (Annex 4)

⁵ The blasting activities were not carried out after 31 March 2020, as most of the excavation work is completed by the contractor.





#	Issue	Date of Record	Corrective Actions taken and progress summary with the dates
			<ul style="list-style-type: none"> Lesson to be learnt by the contractor through this NCR not to perform any work without a valid approval or the written consent from the Engineer. CSCEC informed by a letter Ref. CSCEC-ICB2-PMDSC-1104 on 20 Feb 2020, that CSCEC has already stopped clearing, and will not attend any work without engineer's approval. So, NCR was closed
ii.	E- NCR No. 009 (Ref. PMDSC-NWP-Site/ICB 2/CSCEC/783 on 08.01.2020): Cement waste dumping in the site at 12+200 km area, 16+600 km area, 17+600 km area, 20+200 km area	06&08. 01.2020	<ul style="list-style-type: none"> Immediately cleaned the site Instructed to carry out proper awareness program for site staff about waste disposal and Environmental Officer of the contractor to update about the status with proper reporting to the RE about the non-compliance issue and progress of corrective actions taken. CSCEC was asked to submit a realistic waste management plan, including stockpile, spoil dump etc and update the CEMP incorporating the same details as the waste management / spoil dumping has become a serious issue related to NWPCP ICB 2 contract under CSCEC CSCEC informed engineer (Ref.CSCEC-ICB2-PMDSC-1017) of the corrective actions to be taken for the Environment Non - Compliance Report (Env-NCR)-009 on 29.01.2020 as follows: <ol style="list-style-type: none"> Cement waste was removed in several places Workforce was made aware that cement waste should not be dumped Arranged temporary dumping pits EMS visited to verify the corrective actions, but the CSCEC had not implemented the actions to the satisfaction of the Engineer, and had continued with the same issue
iii.	E- NCR No. 010 (Ref. PMDSC-NWP-Site/ ICB2/CSCEC/857 on 31.01.2020) - Discharging water in the settling ponds / sedimentation tanks of the batching plant into the nearby natural water way (small stream) leading for water pollution and social unrest in the area.	27&28 Jan 2020	<ul style="list-style-type: none"> Immediately cleaned the canal by EMS using contractor, and flushing the area with water bowser Carried out consultation with nearby residents to understand the issue CSCEC was advised: <ol style="list-style-type: none"> To issue a warning to their Environmental Officer for not adhering to the environmental safeguard requirements To collect water samples from stream and nearby water wells including well that owned by community water supply scheme with EMS and carry out water quality test complying with CEA standards for drinking water and disclose to the villagers to avoid further unrest of the villagers. To seal all opening on the existing wall that in the streamside of the batching plant to avoid illegal disposal to the stream To manage effectively settling ponds or sedimentation tanks of the batching plant. To implement all conditions given in the EPL, EMP, CEMP, MS for the batching plant, and NCR No. 07. Since this is an irreversible environmental impact, to deduct 5% from January IPC as a non-reimbursable deduction The water samples in Katupotha area referring to NCR No. 10, was attended by CSCEC on 13 Feb 2020, and report was submitted to Engineer on 24.02.2020 through letter Ref. CSCEC-ICB 2-PMDSC-1121. As per the water samples, the well water alkalinity is high including the well






#	Issue	Date of Record	Corrective Actions taken and progress summary with the dates
			<p>taken as baseline which is located away from the stream. All other parameters were found to be within the acceptable limits. Informed CSCEC (Ref. PMDSC-NWP -Site-/ICB 2CSCEC/0983 on 05.03.2020) to attend required mitigations on NCR No. 10 to close both NCR No.09 and 10 as those 2 are interrelated issues.</p> <ul style="list-style-type: none"> The contractor was agreed to resolve these issues by August 2020 prior to renew the EPL
iv.	Notice to temporary suspend batching plant operations due to causing public nuisance, repeated violation of CEA regulatory and EPL conditions, HS manual (Ref. PMDSC-CRE - NWP/ICB 2-CSCEC/010 on 08.02.2020)	08.02.2020	<ul style="list-style-type: none"> The area was visited jointly with CRE, and some measures has been taken by CSCEC. Hence, the suspension was lifted with the condition that they should close the NCR NO. 7, No. 10 within 1 week. <p>But as of end June 2020 the required mitigations had not been fully implemented.</p>
v.	Resistance caused by villagers living close to 15+050 km due for rock blasting (Ref. Ref. PMDSC-NWP-Site/ ICB2/PIU/0133 on 20.02.2020)	12.03.2020	<ul style="list-style-type: none"> EMS did follow-up monitoring of this issue and attended monitoring blasting work at 15+km area on 12.03.2020 in the NWPCP ICB 2. It was noted that the Air Blast Over Pressure (ABOP) was exceeded the standard limits in 2 blasts out of 4 blasts made on 12.03.2020 According to the CEA standards, the maximum allowable limit for an area with type 3 buildings (single/ 2 story houses made of lighter construction / not designed to resist earthquakes) is 120 units? (for multi-bore holes) and the ABOP recorded in 2 blasts were around 135 and 121. Accordingly, RE was informed and he instructed the Contractor to submit the previous records of ABOP and ground vibration during the blasts together with software generated result sheet as a proof. Also noted that blasting work were not up to the standards and did not follow MS recommendations hence flying rocks were observed during the blast. The required mitigation measures were directed by PMDSC, and the 3rd party monitoring hired through the CSCEC is working with CSCEC
vi.	E- NCR No. 011 (Ref. PMDSC-NWP-Site/ ICB2/CSCEC/967 on 02.03.2020) - Spilled cements on Moragolla main road in Aluthwewa area from truck mixers used by CSCEC leading dust generation and risk of slipping motor-bicycle, foot-bicycle, etc.	01.03.2020	<ul style="list-style-type: none"> Immediately cleaned the road using contractor, and flushed the area with water bowser CSCEC was advised to: <ol style="list-style-type: none"> immediately wash the road and remove all particles that on the road inspect truck mixers and correct any fault that lead to spillage make drivers aware about that kind of accident and corrective actions needed to minimize impacts on surrounding.



34. CSCEC responded through corrective action report (CSCEC-ICB2-PMDSC-1297) dated 21 May 2020 on the un-closed E-NCRs informed through the environmental monitoring finding reports (PMDSC-NWP-Site/ICB2/CSCEC/1065, PMDSC-NWP-Site/ICB2/CSCEC/1097, PMDSC-NWP-Site/ICB2/CSCEC/1147) prepared by EMS – NWPCP during April 2020.




35. However, according to site observations made by EMS – NWPCP, none of the issues mentioned in environmental monitoring finding reports prepared by EMS – NWPCP during April 2020 were effectively solved or rectified. Hence, a special meeting was called on 29 June 2020 with the participation of PIU, PMDSC and Contractor's key staff to emphasize the need of attending required corrective actions. The summary of the findings as of June end are given in **Table 3-5**.






Table 3-5: Update of environmental compliance status observed during reporting period in NWPCP-ICB-2 construction area



Nature and cause of Impact	Corrective Actions	Remarks
Dust		
<ul style="list-style-type: none"> Dust issue is significant during dry and windy weather conditions Not properly and regularly attend water sprinkling or apply water. Watering for dust on roads remain mud patches, which is risky for community drive / walk on road There are public complains on dust issues. 	<ul style="list-style-type: none"> CSCEC attending the corrective actions on the dust issues by watering through the bowzers designated for each construction area following the repeated reminders of the PMDSC. However, to streamline and regularize the required mitigation measures PMDSC directed the CSCEC on following: <ol style="list-style-type: none"> to submit a realistic watering plan with the available resources (bowzers) with CSCEC covering entire ongoing construction areas and access roads. Bowser arrangement for watering - water frequency per day, number of bowzers, designated areas for watering, details of the bowzers with vehicle number, vehicle condition report, owner, driver, or helpers contact details to follow up Clean mud patches on the main access roads, periodically 	 <p>Dust in Wildlife area</p> 
Dust Barricades		
<ul style="list-style-type: none"> Dust barricades in the residential areas are poor in condition, not effective and not maintaining. Therefore, some are already collapsed. There are public complains about quality, effectiveness and maintaining. Some locations that need to be installed dust barricades still vacant 	<ul style="list-style-type: none"> CSCEC attending the corrective actions on the dust issues by erecting dust barriers following the repeated reminders of the PMDSC. However, to streamline and regularize the required mitigation measures PMDSC directed the CSCEC on following: <ol style="list-style-type: none"> Include in the plan indicating material to be used, location/chainages where the barricades to be installed Use long lasting or durable, effective materials. Fix properly to the ground otherwise easily damage due to wind. Require proper maintenance. Install in all required locations 	 <p>20+100km / RHS in April 2020</p>  <p>20+100km / RHS in May 2020</p>



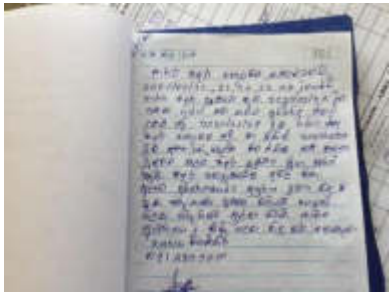

Nature and cause of Impact	Corrective Actions	Remarks
		 <p>12+375km / LHS in end April 2020</p>
Cement Wastes		
<ul style="list-style-type: none"> ▪ Poor waste management in the site, and workers throw all rubbish everywhere in the site. ▪ Concrete spills from truck mixers, cement waste not dumped at designated places. ▪ Batching plant No. 1 washing bay is not used for washing truck mixers, and instead they are washed in the site ▪ Water pollution of the Dehigaha Ela was observed due to cement wastes at 18+490km ▪ No required mitigations effectively adopted as per ENCR 9 and 11. 	<ul style="list-style-type: none"> ▪ CSCEC already implemented the awareness training and rehabilitated the sedimentation tank in the batching plant with the washing bay to wash truck mixers at the proper locations. ▪ However, since the attending corrective actions are in slow progress, and continuous follow up requires by the PMDSC, to streamline and regularize the required mitigation measures PMDSC directed the CSCEC on following: <ol style="list-style-type: none"> a) Waste management plan to be submitted overall construction area including required stockpiles/ disposal areas. b) EO CSCEC was nominated as the responsible person on this and educating truck drivers to follow the location plan. 	 <p>E NCR No. 09 by end March 2020</p>  <p>Spilled cements on the Moragolla main road in Aluthwewa area from truck mixers (E-NCR 11)</p>  <p>Cement waste in Dehigaha ela</p>
Site Cleaning		
<ul style="list-style-type: none"> ▪ No proper solid waste management plan is implementing in the site. Garbage, debris found inside and outside of the excavated areas, and outside of the RoW. 	<ul style="list-style-type: none"> ▪ Cleaned all wastes in the site periodically ▪ And instructed to implement proper waste management plan. 	

Nature and cause of Impact	Corrective Actions	Remarks
Stockpiles		
<ul style="list-style-type: none"> Toe protection, toe drains with silt traps not implemented, and wash off material has damaged surrounding canals, tanks, agriculture areas. Height of the stockpiles not maintained as per the standards. Stockpile affecting Bamburawahana oya is at high risk area. CSCEC not maintained canal reservations when establish stockpiles Due to stockpile located RHS at 18+300km, the Dehigaha Ela and few water wells located adjacent to the Dehigaha Ela completely silted and there are public complains. Unauthorized stockpile operation observed at LHS of 19+700km, RHS of 12+350km and Kandabodaya near outlet portal of the Nilagama Tunnel. No adequate mitigatory measures are taken as per the ENCR 5. GRC decisions agreed by CSCEC at the previous GRC meeting, related to stockpile not yet implemented 	<ul style="list-style-type: none"> Due to the increased excavation progress, and slow progress in backfilling, the extent of stockpile areas had been increased, and management has become an issue. Hence, to streamline and regularize the required mitigation measures PMDSC directed the CSCEC on following: <ol style="list-style-type: none"> Apply checklist for all supervisors prior to select any stockpile. Template to be shared by EO-CSCEC. If required guidance to be given by EMS Awareness to be done by PM – CSCEC to his staff – supervisors obtain approvals from Engineer before implementing project related activities EO to list all the stockpiles in active mode, detail list to be updated including approval requirements, quantities, and land details etc. as per the template already shared by the PMDSC Env team Submit MS for new areas for the lands which have not obtained engineer's consent The stockpile areas identified damaging existing water bodies, drainage arrangements to be shifted to suitable, approved locations. Attend mitigation measures to prevent erosion, siltation in the downstream areas, toe protection etc. as already instructed in the NCR No. 5. Once all mitigations are attended, CSCEC to inform RE to attend site monitoring to close the NCR No. 5 RHS side 18+300 km stockpile to be used first for backfilling 	 <p>Stockpile at 16+400km / LHS in May</p>  <p>18+100km / RHS in May</p>  <p>18+300km / RHS in May</p>

Nature and cause of Impact	Corrective Actions	Remarks
Stagnant Water in Excavated Area		
<ul style="list-style-type: none"> Stagnant water can be observed in some excavated areas where the construction is not yet started and there is a risk to public health due to Mosquito breeding (in May 2020) 	<ul style="list-style-type: none"> Properly dewater and maintain. 	
Dewatering		
<ul style="list-style-type: none"> No adequate measures are taken to control siltation (silt traps) during dewatering as per the approved MS Dewatering damaging existing natural water ways (Galapitagala Tank Polluted water due to dewatering captured on 22nd April 2020) 	<ul style="list-style-type: none"> Contractor is directed to stick to standard practices during dewatering establishing silt traps To clean silted public streams, tanks etc. responding to grievances To nominate officer responsible and timeline to complete as CSCEC did not respond when asking for such information at the meeting 	 <p>Galapitagala Tank / 22nd April 2020</p>   <p>Tank in DWC area silted due to dewatering</p>
Blockage of Drainage Paths and Streams		
<ul style="list-style-type: none"> No adequate measures were taken to facilitate drainage paths that cross the NWP canal. At about 14+800km, across the Walawwela stream only one Hume pipe was placed to facilitate water flow. It is not sufficient to facilitate water flow. 	<ul style="list-style-type: none"> Effectively manage drainage paths using appropriate engineering techniques 	

Nature and cause of Impact	Corrective Actions	Remarks
<ul style="list-style-type: none"> At about 15+828km, across the Kellamerichcha Ela, no Hume pipe are placed to facilitate water flow and there are public complains. Due to access road to the 19+700km stockpile, natural waterway to the tank at DWC area was blocked. Due to access road to Kandabodayaya stockpile small waterway from nearby tank was blocked. 		  <p>Bambaruwahana oya</p>  <p>Kellamerichcha Ela</p>
Soil Erosion and Siltation		
<ul style="list-style-type: none"> Many soil erosion areas can be seen in the RoW (in addition to stockpile areas). No adequate measures are taken to prevent or minimize soil erosion and siltation. In particular, at about 12+450km (Bambaruwahana oya), at about 14+800km (Walawwela natural stream), at about 17+150km (Galapitagala Tank), at about 18+490km (Dehigaha Ela) and excavated area inside the DWC/FD lands, soil erosion and siltation observed during field visits. 	<ul style="list-style-type: none"> Take necessary measures to control erosion and siltation as per CEMP and EMP. 	 <p>Elephant pond at DWC area</p>  <p>Bambaruwahana Oya</p>

Nature and cause of Impact	Corrective Actions	Remarks
		<p>Walawwela natural stream</p> 
Disturbances to the fauna and flora in the project area		
<ul style="list-style-type: none"> Issues with the electric fence, no proper maintenance. Small mesh fence is not maintained, and lot of damage and gap areas observed. Complaint from DWC on CSCEC working night time on 26 June 2020 within the wildlife protected area (19+000 km to 19+650 km). Night work is not allowed after 6 pm as per the FFPO and Environmental approval issued by CEA / DWC 	<ul style="list-style-type: none"> CSCEC cleared the bushes touch with the fence but need to check the power and sufficiency for entire night-time, and adopt regular check-up and maintenance plan PD-PIU informed to RE (Ref. NWPCP/PIU/PD/ENV/ICB 2/ /PMDSC/20/07 on 25 June 2020) about the incident of night time working and CSCEC was informed through RE letter about the DWC complain made to PIU on the same violation and instructing not to repeat (PMDSC-NWP-Site/ICB 2/CSCEC/1300 dated as 29 June 2020) (Refer Annex 5) CSCEC was advised to use long lasting or durable material for small mesh fence and needs to be fixed properly to the ground otherwise easily collapse. 	 <p>Breakdown small net fence</p>
<ul style="list-style-type: none"> Complaint from DWC on the collection of frogs trapped in the stagnant water in the excavated area within the Pibidunagama village (outside protected area) by CSCEC workers (Chinese nationals) 	<ul style="list-style-type: none"> Informed to CSCEC through Letter Ref. PMDSC-NWP-Site/ ICB2/CSCEC/1071 on 19 April 2020 advising not to perform such activities, emphasizing following: <ol style="list-style-type: none"> except 10 species of amphibians, all other amphibian species inhabiting in Sri Lanka are protected under the Fauna & Flora Protection ordinance (FFPO). We do not know what the species they collected, but this kind of practices is not ethical, and on the other hand it is violation of EMP/CEMP. This kind of incident will trigger social issues as it is not culturally acceptable, and will result 	

Nature and cause of Impact	Corrective Actions	Remarks
	in rejection by the respective community.	
Blasting Works		
<ul style="list-style-type: none"> There are public complaints, and grievance meeting held on house cracks due to blasting work carried out in the canal. 	<ul style="list-style-type: none"> CSCEC was directed to submit third party monitoring report to verify that the Air Blast Over Pressure (ABOP) is within the CEA interim standard limits. CSCEC has not yet submitted this to the PMDSC 	N/A
Batching plant No. 01		
<ul style="list-style-type: none"> Corrective actions as per the NCR No. 7, and No. 10, are not fully implemented yet. Public complaints still continue due to dust and noise issues Dust barricades broken, and noise barricades not effective as they are not placed throughout. Now truck mixers are not washed inside the plant using sedimentation as the ponds, and drainage system is not well prepared to cater the demand. Due to isolation of sedimentation pond, stagnant water is present which result mosquito breeding. Sprinkler system operates only when monitoring personnel enters the premises, and not continue as per a schedule. Noise measurement taken 13th March 2020 not up to the requirement, and not performed to obtain any outcome to decide whether the operations are complying with the CEA acceptable noise levels. No necessary approvals taken for bar cutting yard and Bar bending yard place inside the Batching Plant. Road in front of the plant is full of dust, and not watered periodically, causing inconvenience to the people. The road is covered with cement and mud patches, which generate 	<ul style="list-style-type: none"> CSCEC promised to complete all mitigatory measures before 21st February 2020 during joint inspection held on 12th February 2020 with CRE, RE, EMS, PM, however, not yet (30th June 2020) fully completed CSCEC is informed to share the approval letter or extracting water through Devahuwa for the use in batching plant including approx. quantities required per day. CSCEC is informed to attend to the required mitigations as per NCR No. 7 and 10, and install effective, dust and noise barriers CSCEC is informed to include watering plan using sprinkler and bowsters under the same plan as per Topic No. 2 of this MoM Noise measurements to be taken as directed and submitted to RE 	    <p>Some rectification measures implemented by CSCEC including display of grievance details</p>

Nature and cause of Impact	Corrective Actions	Remarks
dust during windy, dry climate, and muddy roads when watered.		

36. Out of 11 E-NCRs raised for the past 1-year period, there are 06 NCRs open without providing adequate corrective actions, and the repetition of the same issue.

37. All these environmental issues can be prevented or mitigated easily by timely attending to mitigation measures and having a proper environmental safeguard management system in place as stated in CEMP and MS. However, due to lack of proper attention by CSCEC on environmental safeguard aspects, all these issues have arisen and have been continuing from the beginning. Therefore, it was strongly advised to CSCEC to provide immediate attention and solve all these issues and follow standard environment safeguard practices, with active involvement of CSCEC's EHS key staff. Further, the payment deduction was imposed against not responding to close NCR and required management actions was adopted to improve compliance minimizing repetitive violation by conducting awareness and training by the CSCEC to their site staff, and special discussions to guide the PM and EO of CSCEC by the EMS/ES of PMDSC.

(i) License and permit status of NWPCP-ICB-2

38. The EPL for batching plant will expire by 25 August 2020, and the reminder was made through RE to renew the license on time.

39. As indicated in the **Table 3-5**, there 2 unapproved stockpiles at LHS of 19+700km (Korakahagolla), RHS of 12+350km (Danduahagolla) and Kandabodayaya near outlet portal of the Nilagama Tunnel which are in operation. The contractor was informed on 21 June 2020 (Ref. PMDSC/NWP-Site/ICB 2/CSCEC/1273 & 1274) to obtain required approval and submit the MS for engineer's approval. The Contractor is in the process of obtaining approvals by end of June 2020.

40. Tree removal (Ch.18+ 500 Km to 19+650 Km & 20+750 Km to 22+300) was completed under the supervision of Beat Forest Officer (BFO) Galewela and State Timber Corporation (STC) Dambulla officers present for monitoring, complying with the FD approval No 5/4/3/16/වයඹ පළාත් දළ Vol.1 dated 08.01.2020.

3.3 Environment Quality Monitoring Records in NWPCP-NCB-1 and ICB-2 (Jan to June 2020)

41. There is no environmental quality monitoring carried out in NWPCP-NCB-1.

42. In NWPCP-ICB-2 area the Engineer instructed the CSCEC (NWPCP-ICB-2 contractor) to test the water quality of the adjacent 03 wells and 2 samples from the polluted canal, addressing the social unrest due to disposal of cement mix water into the nearby stream, when emptying the sedimentation tank of the concrete batching plant (Refer E-NCR No. 6 of Table 3-5).

43. CSCEC carried out water quality testing on 13 February 2020 as a joint survey by the National Water Resources Board (NWSDB), and the results were issued indicated following outcomes and the test report issued by NWSDB is given in **Annex 6**:

- (i) Sample Well No. 4 was taken as the baseline measurement, which is located away from the affected area, and compared to that well Turbidity (NTU) and Alkalinity (as CaCO_3) levels are high in the wells located closer to the polluted stream
- (ii) Sample stream No. 5 was taken as the baseline, which is located upstream of the batching plant, and the downstream sample location of No. 3 shows very high Turbidity of 10.2 NTU compared to 2 NTU in the upstream area.

44. In addition, periodical well water level monitoring was carried out by the CSCEC during the reporting period due to the anticipated ground water level drop due water ingress resulted by the deep excavation and tunneling in Ranwediya and Nilagama areas. The data are summarized in **Table 3-6**.

Table 3-6: Summary of the well monitoring in NWPCP-ICB-2 area

Description	Locations		Average Water level (m)		
	Well No.	GPS	30 Jan 2020	27/28 Feb 2020	20 June 2020
Nilagama Tunnel area near portal area and along the tunnel	NW 1	N 585,031 / E 473,747	No water	No water	No water
	NW 2	N 585,014 / E 473,744	1.0	No water	No water
	NW 5	N 585,088 / E 473,763	3.1	4.85	7.9
	NW 11	N 585,149 / E 472,951	0.8	2.35	4.0
	NW 15	N 585,065 / E 473,962	0.8	2.15	4.0
Ranwediya Tunnel area near portal and along the tunnel	RW 11	N 582,636.27 / E 473,747	N/A	0.35	0.5
	RW 17	N 582,545.16 / E 476,080.18	N/A	1.80	2.9
	RW 20	N 582,619.41 / E 476,003.51	N/A	0.75	2.0
	RW 23	N 582,559.99 / E 475,955.38	N/A	3.20	4.8
	RW 24	N 582,632.50 / E 476,080.18	N/A	1.70	3.6
	RW 26	N 582,624.90 / E 475,824.69	N/A	0.85	2.4
	RW 29	N 582,644.05 / E 475,752.50	N/A	0.50	1.25
	RW 31	N 582,597.10 / E 475,669.68	N/A	0.50	1.3
	RW 33	N 582,643.79 / E 475,720.10	N/A	0.70	2.6
	RW 35	N 582,588.06 / E 475,563.90	N/A	0.90	3.5

4 ENVIRONMENTAL SAFEGUARD COMPLIANCE STATUS AS PER CEA/ADB REQUIREMENTS

45. The overall environmental safeguard compliance implementing the recommendations and conditions given in the EIA for NWPCP, conditional approvals issued by CEA and other stakeholder agencies such as DWC, FD and the ADB requirements are addressed by the Employer and the PMDSC, simultaneously with the environmental monitoring and supervision carried out on the Contractors 'CEMP implementation.

46. The activities and measures carried out during the monitoring period from January to June 2020 are briefly described in this chapter.

4.1 Compliance Status Related to the CEA Approval Conditions

47. **Table 4-1** summarizes the activities carried out jointly by the Employer and PMDSC to meet the conditions given in the CEA approval.

Table 4-1: Key Actions in Compliance with the CEA approval conditions

No.	Approval condition	Compliance status	Remarks
1	General Conditions	Pradesiyasaba-Galewela approval has been granted for both NCB1 & ICB2 contract package items	Approval for access road, stockpile, batching plant, disposal yards etc
2		Removing trees in the ICB2 (Kahalla-pallakele sanctuary) coordination with DWC, FD & STC	
3	Hydrological Aspects	compensated the affected parties for the loss in respect of agriculture productivity in ICB-2 (18+200, 20+200) (flooding)	Paid compensation for 3 affected farmers by CSCEC
4	Ecological Aspects	Wild Life Management Plan (WMP) implementation in progress	Details given in Table 4-2
5		Reforestation program in Hakwatunaoya basin implemented	Details given in Table 4-2
6		Canal demarcation in progress for the ICB-1 and ICB-3	
7		Establishment of Hakwatunaoya elephant corridor restarted after stopping.	
8		Approval granted for the proposed access roads inside the sanctuary under NWPCP ICB -1 by DWC	Approval Letter No WI/6/1/1/270-1 dated 16 June 2020
9	Land stability and soil erosion aspects	Compliance status by the CSCEC (NWPCP ICB -2) is poor as no acceptable level of corrective measures have been taken by CSCEC as indicated in Table 3-6 Compliance status with respect to NWPCP NCB 1 is moderate	Refer Chapter 3 for detail information
10	Disposal of excavated materials	Relevant approvals have been obtained by NWPCP NCB 1 contractor, and ICB 2 contractor	

No.	Approval condition	Compliance status	Remarks
		except for 3 locations as highlighted under the Chapter 3	
11	Social Aspect	GRM in progress, GRC meeting conducted in NCB1 and ICB2 areas, but contractor's involvement in the GRC process is not up to the standard due to lack of experience.	
12	Noise and Vibration	Measuring the Noise and vibration during blasting activities under NWPCP ICB-2 is done by third party consultant	PMDSC has requested CSCEC to share the report, but it was not yet submitted to RE
13	Environmental Management plan	Updating EMP with the scope changes in progress for NWPCP ICB-2	

4.2 Implementation of Wildlife Management Plan

48. The Employer (PMU and PIU) undertake the implementation of the Wildlife Management Plan (WMP) with the necessary support from the PMDSC and the relevant stakeholder agencies like Department of Wildlife Conservation, Forest Department, Irrigation Department, Agrarian Development Department and Divisional Secretariat etc.

49. The overall execution methodology of the WMP including action implementation as well as institutional mechanism for monitoring and guidance is presented in the **Annex 7-A**.

50. The main objective of implementing WMP is to mitigate escalation of Human Elephant Conflict (HEC) due to NWPCP construction as well as resultant land use change (increasing cropping intensity) as mentioned in the EIA approval stipulations to the Project. The expected outputs of WMP are briefly presented in the **Figure 4-1**.

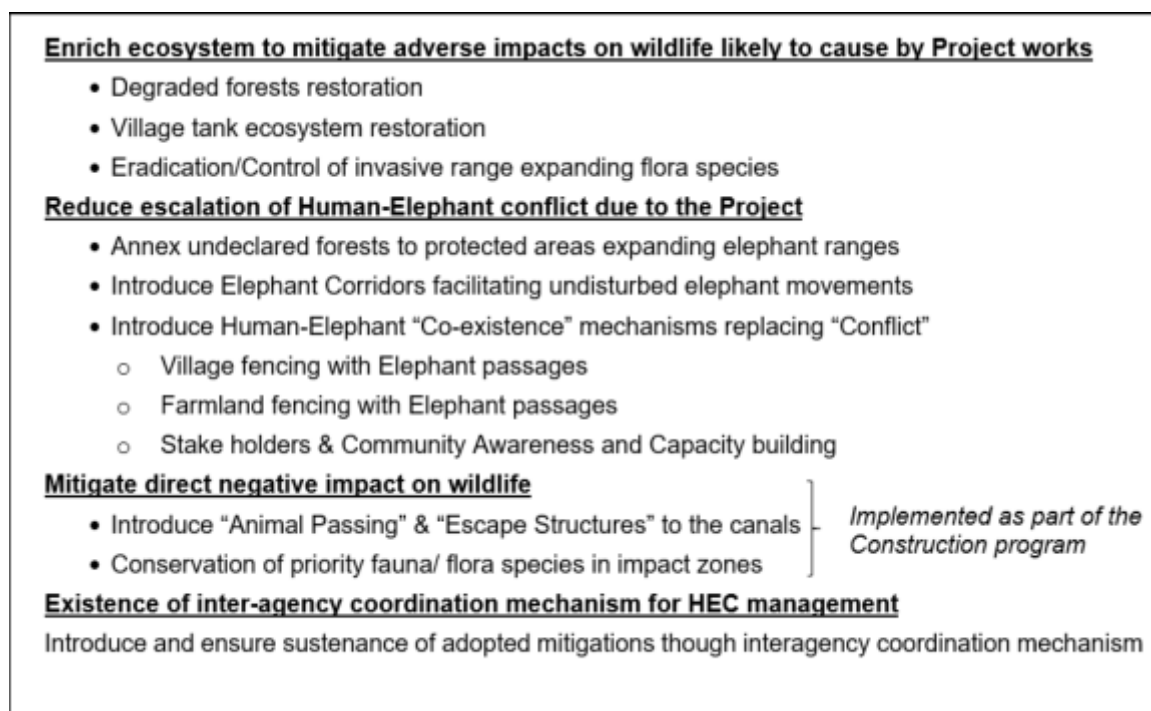


Figure 4-1: Expected outputs of WMP

51. The “Action Plan” for executing mitigation actions in the WMP-NWP (December, 2017) was revised in consultation with the regional level officials of the key stake holder agencies (i.e. Regional Review Committee) and ground verification findings in 2019 as given in the **Annex 7-B**.

52. This “action plan” was again revised during the reporting period in order to identify mitigation actions on priority order (to be implemented through the limited budget available) in consultation with the national level officials of the key stake holder agencies (i.e. National Review Committee held on 25.02.2020) and the revised action plans (as Priority & Non-priority actions) are given in the **Annex 7-C**. Funds are available with PMU-MWSIP through the ADB for the “Priority actions”, that are now being implemented whilst funds to be found for implementing the Non-priority actions.

53. The progress of implementing the mitigation actions during the reporting period against the planned actions to be implemented is summarized in the **Table 4-2**.

Table 4-2: Progress of implementing the WMP in NWPCP during the reporting period

No.	Actions in the WMP*	Physical Progress	Estimate/ LKR & Progress
Enrich ecosystem to mitigate adverse impacts on wildlife likely to cause by Project works			
1	165 Ha Reforestation Beligamuwa kanda forest, Naula in Mathale DFO division	Planting 45,000 native plants in 45 Ha Maintenance of 16000 plants in the Nursery for future planting and Maintenance of 22.5 Ha of reforested land with 3 km length fire belt established. <i>Refer Annex 7D for the location map</i>	69,149,840/= 12.11%
2	Kumbukulawa cascade Ecological restoration of 6 tanks in Polpithigama DS area	Surveying completed in 6 tanks Boundary demarcation & installing boundary posts in Kumbukulawa tank Contract awarded for reforestation (Establish Kattakaduwa and Gasgommana with native species) within 7.5 Ha. Site investigations completed and selected 15 tanks for ecological restoration in 2020/ 21 <i>Refer Annex 7E for the Site map of Kumbukulawa Cascade System</i>	1,659,203/= 42.03%
3	Restoration of water holes under Habitat enrichment within Kahalla-Pallekele Wildlife Sanctuary	Field surveys were undertaken, and Estimate prepared for restoration of 3 tanks and 01 Anicut, Procurement in progress. <i>Refer Annex 7F for the site Map of Tanks for Restoration</i>	6,475,000/= <i>Expenditures for preparatory work were minor</i>
4	Removing Alliance Invasive Species (<i>Mimosa Pigra</i>) in Wemedilla tank in Dambulla Irrigation Zone in Mathale District	Surveyed and Estimate prepared for removal of invasive <i>Mimosa pigra</i> in an extent of 11.5 Ha. Execution & maintenance method was established in consultation with Irrigation Department and Farmer Organization Procurement in progress. <i>Refer Annex 7G for the Site map of Wemedilla Tank</i>	1,098,000/= <i>Expenditures for preparatory work were minor</i>

No.	Actions in the WMP*	Physical Progress	Estimate/ LKR & Progress
Reduce escalation of Human-Elephant conflict due to the Project			
5	Annexing identifies forest patches to existing Protected Areas	Identified and mapped (with GPS coordinates) the forest patches Declaration under FFPO/ FO is in progress <i>Refer Annex 7H for the map of identifies forest patches</i>	3,000,000/= <i>Expenditures for preparatory work were minor</i>
6	Establishment of Elephant Corridors (EC)	Ground verification and site/ regional level stake holder consultation was undertaken for establishment of EC-1 and EC-2, EC-1 was suspended due to objections at the Regional Review Committee (RRC) meeting held on 30/07/2019 (chaired by the District Secretary-Kurunegala), consented at National Review Committee (NRC-25/02/2020) and will be submitted to DWC for further action. EC-2 was altered (from WMP, December 2017) for effective execution with minimal socio-economic effects and mapped with GPS coordinates.	12,140,000/=
		Discussions in progress to declare EC-2 by DWC using GPS coordinates as decided at the NRC on 25/02/2020 <i>Refer Annex 7I for the identified route</i>	<i>Expenditures for preparatory work were minor</i>
7	Installation of Radio collars for elephants to identify migratory routes for declaring Habitat linkages for elephant movement	Fabrication of 02 Elephant Radio Collars with the University of Moratuwa (UoM) as a Pilot Project in consultation of Department of Wildlife Conservation (DWC), through the GOSL fund was finalized Procurement in Progress to sign agreement by PMU-MWSIP with UoM & DWC	1,268,000/= <i>Expenditures for preparatory work were minor</i>
8	Establishment of Electric Fences for protection of Villages/ Cultivated lands	Estimate prepared for Maintenance of Electric Fence (Km 13.2) in the peripheral areas of ICB-2 in Kahalla-Pallekele Wildlife Sanctuary Procurement in Progress	2,447,430/= <i>Expenditures for preparatory work were minor</i>

54. **Annex 7J** presents the summary of key stake holder participatory sessions held in relation to implementation of the WMP

4.3 Disclosure and GRM

55. The environmental related grievances are also handled through the Grievance Redress Committee (GRC) conducted by the Employer (PIU) with assistance from PMDSC, relevant stake holder agencies with participation of the Contractor and the Community leaders as well as the Affected Parties.

56. The Senior Environmental Officer (SEO) of the PIU takes the lead in attending environmental grievances with participation of Communication Officer and Resettlement Officer in the PIU. The Communication Officer is provided with an official telecommunication facility to acts as the “focal point” in receiving and responding the community grievance coordinating with team members.

57. The general protocol agreed upon all parties for resolving “environmental grievances” is given in the **Annex 8**.

58. **Table 4-3** summarizes the number of Grievance Redress Committee (GRC) meetings conducted during the monitoring period by PMU/PIU in the NWPCP project area.

Table 4-3: Summary of the GRCs Established in NWPCP Area

Type of committee	GRC-Name	Date Established	Members ⁶	No. of meetings		Dates during reporting period
				Cumulative	Reporting period	
Level 1	Welamitiyawa	09.12.2016	GN, ARPA, 2 CBO members, SRO, SEO	9	0	
	Weragalawatta	11.07.2017		8	2	2020.02.14 2020.02.20
	Walaswewa	11.07.2017		6	0	
	Nabadagahawatta	25.01.2017		8	0	
	Silwatgama	18.07.2017	Priest of Temple, GN, ARPA, 2 CBO members, SRO, SEO	1	0	
	Danduyaya	08.08.2016		8	0	
	Pahala Bambawa	05.08.2016		9	2	2020.06.03 2020.06.16
	Ranwediya	08.08.2016	GN, ARPA, 2 CBO members, SRO, SEO	5	0	
	Kospotha	25.01.2017		10	1	2020.02.26
	Hombawa	23.03.2017		15	5	2020.02.07 2020.02.24 2020.03.02 2020.05.20 2020.06.03
	Aluthwewa	02.02.2017		14	3	2020.02.24 2020.05.30 2020.06.03
	Pibidunugama	02.02.2017		7	2	2020.02.11 2020.02.18
	Pattiwela	21.06.2017		1	0	
Level 2	DS -Galewela	04.10.2017	DS, GNs, AO, SRO, SEO, CBO leaders	14	6	2020.02.11 2020.02.27 2020.05.21 2020.06.25
Level 3	GA-Matale	22.05.2018		3	0	

59. A summary of the environment related grievances during the monitoring period is given in **Table 4-4**.

Table 4-4: Summary of Environmental Grievances Attended

Contract package	GRC - Name	No. received	No. relevant	No. attended out of relevant	No. resolved	Remarks
NCB1	Level 1	06	03	03	00	All the issues are related to house cracks.

⁶ By position/ category e.g. community leader/ priest etc.

Contract package	GRC - Name	No. received	No. relevant	No. attended out of relevant	No. resolved	Remarks
						Permanent solution will be given after the construction work of the particular location
	Level 2	1	01	01	00	non resolved one is a house crack related issue
ICB2	Level 1	24	07	07	04	non resolved issues are related to house cracks
	Level 2	4	1	1	1	

60. There are number of meetings and training programs carried out related to GRM during the monitoring period with the participation of relevant officers representing PMU, PIU, PMDSC (Engineer) and the Contractors. A summary of the details is presented in **Table 4-5**.

Table 4-5: Summary of the meetings and trainings conducted during the monitoring period

Event name	Date	Location (GN-DS)	No Participated	Resource persons
Special GRM Meeting	13.01.2020	CSCEC office	10	International social safeguards consultant of PMDSC
GRC meeting	07.02.2020	GN-Hombawa (katupotha village)	37	PD-PIU, ES-PMU, RE-ICB2
GRC meeting	20.02.2020	Weraglawatta	7	PM-NEM, SLO
GRC meeting	02.03.2020	Hombawa	10	RE-ICB2, PM-CSCC
GRC meeting	03.06.2020	Aluthwewa	16	ES-PMDSC

61. **Annex 7** provides photographic records and relevant maps of the work carried out related to the Environmental safeguard compliance jointly with PMU/PIU and PMDSC.

5 PLANNED ACTIVITIES FOR NEXT SEMESTER (JULY – DECEMBER 2020)

62. The key activities in addition to the routine contract management and supervision activities under Task 3, under the PMDSC for next semester will include following:

- Due to the design change of the chainage from 21+900 km to 22+300 km NWPCP-ICB-2 area, and provision of additional areas for RoW on the request of the Contractor, it has delayed the completion of the ecological baseline and species translocation study report for NWPCP-ICB-2 carried out by the Rajarata University team. Surveys were completed, and the report will be completed within next semester.
- Due to the prevailing Covid-19 situation, the plan for carrying out environmental quality monitoring testing associated with the key construction areas of NWPCP-ICB-2 was delayed, and it will be completed within the next semester.
- BIQ for Bowatenna Tunnel 2 (NWPCP-ICB-4) is in progress, and it will be submitted to CEA within next semester and start detailed environmental studies related to Bowatenna Tunnel 2.
- Environmental Screening for identified access roads, contractor facilities for NWPCP-ICB-1 and preparation of supplementary reports for the approved EIA.
- Updating EMPs for NWPCP-ICB-2 and NWPCP-ICB-1 incorporating scope changes shall be completed within next semester

63. Activities related to the EIA and CEA conditions are summarized under **Table 5-1**.

Table 5-1: Planned activities under CEA and EIA approval compliances

EIA & Related activities
<ul style="list-style-type: none"> ▪ Ecological Survey- ICB1 ▪ Tree enumeration & Removing – ICB1 ▪ Tunnel related EIA work- ICB4 ▪ Additional land work- ICB2 Sanctuary area ▪ Hakwatunaoya elephant corridor establishment work
WMP implementation
<ul style="list-style-type: none"> ▪ Habitat enrichment – construction of 4 water holes a & survey new 5 water holes for 2,021 ▪ Reforestation of 78 hectares' teak removed land in Kahalla Pallakele Sanctuary ▪ 65 hectares of land reforestation & maintains of 25 hectares of reforested land in Beligamuwa Kanda ▪ Ecological restoration of tanks – restoration of Kumbukulawa cascade tanks ▪ Survey the new 15 tanks for 2,021 ▪ Management of invasive Species – Removing 11 hectares of <i>Mimosa pigra</i> in Wemedilla tank ▪ HEC activities – Rehabilitation of Electric fence from Dummeeya to Kalugala (13 km) ▪ Annexing forest – Coordinating works with other line agencies for the legal work
GRM
<ul style="list-style-type: none"> ▪ Established GR committees for ICB3 and ICB4 areas ▪ Organized GRC meeting in NCB1, ICB2, ICB3 & ICB4 areas ▪ Attend and resolve environmental related grievances
Construction Monitoring
<ul style="list-style-type: none"> ▪ Environment monitoring of NCB1, ICB2, ICB1 construction work ▪ Monitoring of Kahalla – Pallakele Sanctuary area work under ICB2 & ICB1 packages ▪ Monitoring of Tree enumeration & tree removing works of ICB1 ▪ Monitoring of Ecological Survey, Species transplant and translocation programs of ICB1 ▪ Attend the Monitoring meetings of NCB1, ICB1, ICB2 ▪ Monitoring of Ground water level monitoring program under ICB2 & ICB4

Annex 1: Environmental Emergency Action Plan (EEAP)

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Mahaweli Water Security Investment Program

Emergency Environment Action Plan for Construction Site Closure due to COVID-19 Outbreak



**Ministry of Mahaweli
Development and Environment
Sri Lanka**



April 2020

Revised Draft Report

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Contingency Environment Action Plan

Project Number H.503409
 Subject Project Report
 Project Director Dr. Beau Freeman
 Country Sri Lanka

Project Title: **Mahaweli Water Security Investment Program**

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Date March 2019

Revision	Date	Status	Author	Checked	Approved
00	30 Mar 2020	Draft approved	Anusha Kasige	M Chegwin	Dr. B. Freeman
01	02 April.2020	Inc ADB comments	Anusha Kasige	M. Chegwin	Dr. B Freeman

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1 INTRODUCTION

1. With the GoSL decision to restrict movements of the public as a measure to control spreading of COVID-19 disease, the construction sites were immediately closed from 20 March 2020. The sudden site closure resulted in various environmental issues due to lack of site maintenance, and inability to carry out monitoring by the contractors' and the Engineer's staff. The enforcement of curfew and travel restrictions out of the district boundaries created a difficult situation with regard to arranging staff for the regular supervision and monitoring work.
2. An emergency environmental incident is a sudden and immediate threat to the wellbeing of the physical, social, and biological environment associated with the construction sites under MWSIP, and this action plan will address the key areas that need attention to manage adverse consequences.
3. However, keeping the minimum required staff (with necessary approvals from GoSL, which will be assisted by PMDSC and Client on request) to ensure due maintenance of site safety and security including environmental emergency management is a Contract obligation of the Contractor. The Contractor's method for managing such emergency is presented in the "Emergency Response Plan", approved by the Engineer/ Consultant.
4. With complete site closure, no routine construction, material transportation, operation of plant or machineries will be permitted, and no full staff with the workforce will be available at the sites. With the site isolation unauthorized and unforeseen releases of hazardous, polluting substances, as well as entry of unpermitted people into the wildlife / forest protected areas for poaching, hunting and making wildfires, potential "Health & Safety risks" to the public, such as "spread of COVID-19" from limited staff mobilized by Project, road accident at barricaded canal crossing or detour location or collapsing excavated canal banks, risking property/ life and wild animals (elephants) entering into villages from the gates managed by the Project can happen. These actions can cause immediate, unacceptable short-term or long-term threats to the environment and persons in the surrounding area.

1.1 Purpose

5. Environmental safeguards are triggered if a project is likely to have potential environmental risks and impacts, due to the regular project implementation cycle not being in place. The ongoing COVID-19 Outbreak led GoSL to limit the exposure of people to the virus by enforcing curfew and travel restrictions inside the country as well as internationally. As a result, site operations were temporarily stopped.
6. Hence, as a part of ADB SPS (2009) it is required to prepare an action plan considering the potential emergency risks at similar accidental, emergency situations. This Contingency Environment Action Plan will include (i) Environmental Management System (EMS) in place; (ii) anticipated environmental risks; (iii) emergency environment response actions.
7. This document, hence, will ensure providing due guidance and support the Contractors to avoid, minimize, control and mitigate environmental incidents under the emergency context. A separate report addressing health and safety risks similar to this action plan is being prepared by PMDSC.

1.2 Scope

8. The purpose of this action plan is to document the procedures and actions to be implemented during an emergency situation, to manage the potential environmental risks in the construction sites.

9. This emergency Environment Action Plan will be a supplement to the site specific EMPs, with the aims to:

- i. Ensure that all specific environmental measures as listed in the EMP/ CEMP are in place at the site level;
- ii. Facilitate with environmental compliance requirements as per the GoSL Environmental regulations, and ADB SPS (2009);
- iii. Support the contractors and the PMDSC contract supervision and management following occurrence of any emergency situation or sudden site closure;
- iv. Provide a Framework for MWSIP to prepare for and respond to emergency environmental incidents, communicate with the appropriate parties in the event of emergency environment incidents, investigate cause, and mitigate the environment incident as required without permitting it to become a disaster.

2 ENVIRONMENT MANAGEMENT SYSTEM TO BE IN PLACE

10. The existing Organization and Environmental Management system is described in Figure 2-1. However, with the travel restrictions, the full-scale environment management and monitoring system cannot be fully practised.

11. Since the GoSL advised to both public and private sector to work from home with the enforcement of curfew, the safeguards cell in the Program Management Unit (PMU), and Program Implementation Unit (PIU) are not active. The environmental team of the Program Management Design Supervision Consultant (PMDSC) is subject to restrictions of movement following the government's decision on working at home, but will be partially activated coordinating with contractors to attend to required mitigatory work and actions required to manage high and moderate risk situations. Permissions for curfew waivers for key staff are currently being agreed with the PMU.

12. The two counterpart personnel of Environmental Specialist in PMU, and Senior Environmental Officer (SEO) assigned to the Project Director (PD) of PIU will be available remotely or on site as required to assist and make required coordination between key stakeholder agencies and counterpart staff at the village level.

13. PMDSC's obligations include administering and supervising the contracts, under the Team Leader (TL) and Chief Resident Engineer (CRE), though respective Resident Engineers (RE) assigned to each contract package with a selected team of staff to work intermittently. The RE assumes primary responsibility for ensuring the environmental safeguard management at the site level, and the relevant activities will be guided and facilitated by the Environmental Specialist (ES) of PMDSC and 3 Environmental Monitoring Specialists (EMS) of the PMDSC assigned for the 3 project areas, Minipe, Upper Elahera Cana, and North Western Province.

14. Table 2.1 summarizes the roles and responsibilities during the emergency situation to manage the possible environmental risks in the site levels, including contact details of the relevant key personnel.

Table 2-1: Key PMU/PIU and PMDSC staff relating to safeguard compliance

Entity	Position	Name / Contact details	Role and responsibilities at the emergency period
PMDSC	<ul style="list-style-type: none"> Environmental Specialists (ES) 	Name: Dr. Anusha Kasige Contact details: +94777589470	<ul style="list-style-type: none"> The overall coordination with the 3 EMS to manage site monitoring Notify outside authorities if assistance required through PMU/PIU environmental team (through TL of PMDSC) Responsibility for coordinating actions among the PMDSC team in accordance with the environmental needs of the situation

Entity	Position	Name / Contact details	Role and responsibilities at the emergency period
			<ul style="list-style-type: none"> • Status update to the TL and CRE of PMDSC copying to respective REs
	<ul style="list-style-type: none"> • Environmental Monitoring Specialist (EMS) for NWPCP 	Name: Nalinda Peries Contact details: +94773250897	<ul style="list-style-type: none"> • PMDSC to obtain an inventory of key environmental/ social and safety issues observed with respect to each contract along with mitigation measures that have been adopted/ are in place. • EMS with environment / safety officer of the Contractor to assess each such action and decide on issues/ project sites which would need special focus (e.g.. cut slope sections which could collapse in an event of rain/ flood, open cut sections through wildlife areas) • Obtain Contractors overall plan for managing site & time specific potential environmental hazards as per Emergency redress plan, Method statements and Compliance requirements. • Periodical site monitoring to oversee the situation • Report, record and update on any environmental issue to RE/ES PMDSC • Coordinate with the Contractor to manage the situation • Take overall responsibility for implementing relevant mitigation actions through the contractor / responsible party of the emergency response work force • Supervise the actions of the Emergency Response Team to ensure all environmental aspects are out of danger/risk. • Notify PMU/PIU if assistance required
	<ul style="list-style-type: none"> • EMS - UECP 	Name: R. M. Premawardena Contact details: +94773693762	
	<ul style="list-style-type: none"> • EMS - MLBCRP 	Name: Sucharitha Kannangara Contact details: +94717113477	
PMU	<ul style="list-style-type: none"> • Environmental Specialist • Social and Resettlement Specialist 	Name: P. Moonamale Contact details: +94771035020	<ul style="list-style-type: none"> • Facilitate and ensure compliance with SPS (2009), all government rules and regulations regarding permits as well as any other relevant approvals required for works for which they are responsible

Entity	Position	Name / Contact details	Role and responsibilities at the emergency period
			<ul style="list-style-type: none"> • Liaise with the environmental agencies and seeking their help to solve the environment-related issues
PIU	<ul style="list-style-type: none"> • Senior Environmental Officer (SEO) - NWPCP 	Name: Rohana Bandara Contact details: +94718323227	<ul style="list-style-type: none"> • Conduct ongoing consultation with the community • Grievance Redress Mechanism (GRM) to be modified to solve the environmental issues during the site closure period and monitor that it is operated satisfactorily coordinating with the relevant stakeholder groups and community • Liaise with the environmental agencies and seek their help to solve the environment-related issues • Assist with Engineer to the Contractor to disseminate warnings and information as required to ensure all people in the immediate area have been warned and evacuated either by alarms or by word of mouth.
	<ul style="list-style-type: none"> • SEO - UECP 	Name: Sanjeewa Kosgolla Contact details: +94774403117	
	<ul style="list-style-type: none"> • SEO - MLBCRP 	Name: Gayani Herath Contact details: +94702698328	

15. In addition to the above, key personnel, essentially the Contractor's Representative are to be engaged with site monitoring and attend to required corrective actions to mitigate the key issues. Project Manager (PM) of the Contractor is specified as the focal point from contractors' organisations who has the authority to manage resources under the respective contractors, and PM shall be assisted by the EO of each contractor to engage with implementing emergency environment action plan.

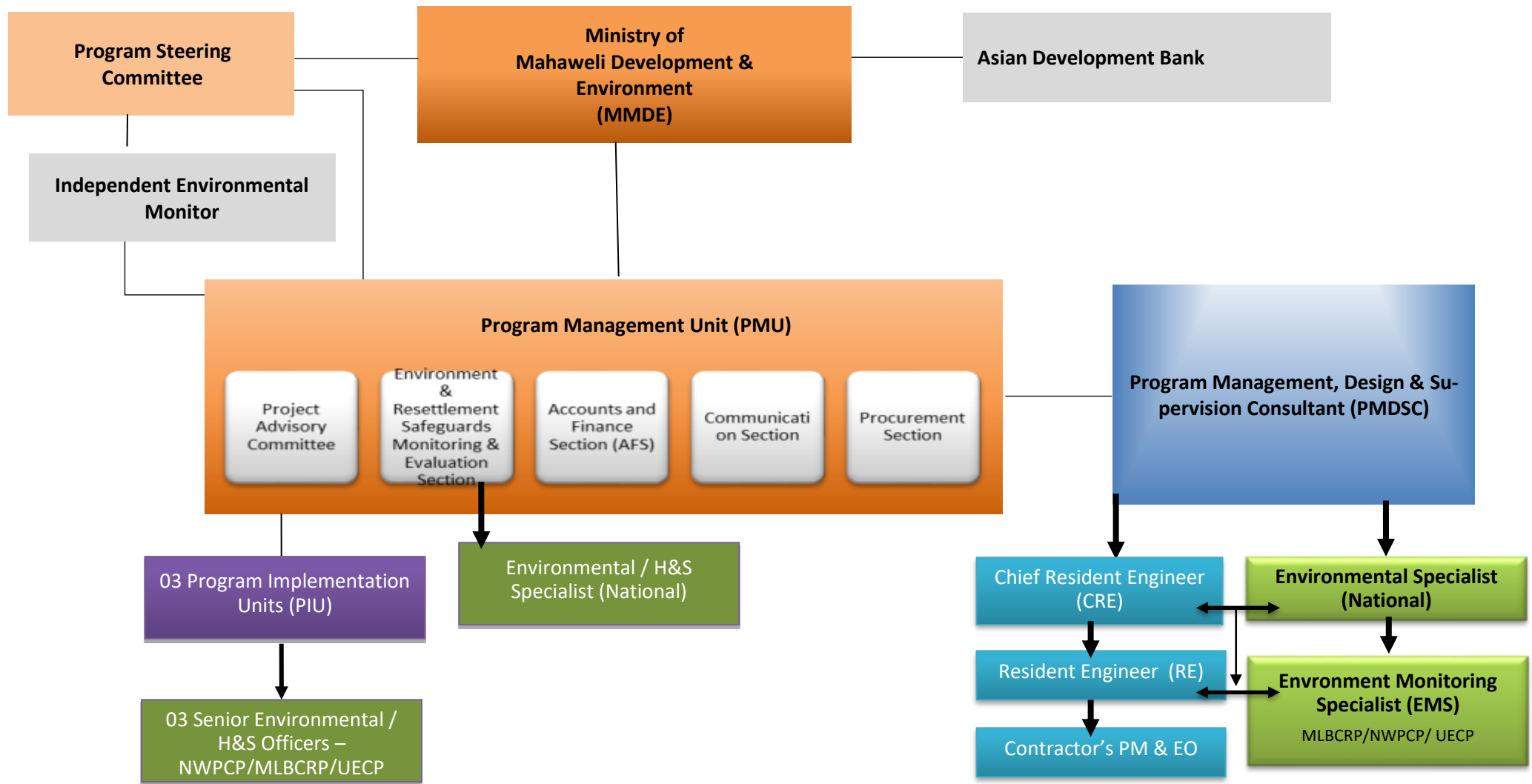


Figure 2-1: MWSIP Environmental Management Organization Chart

3 ANTICIPATED ENVIRONMENTAL RISKS DURING SITE CLOSURE

3.1 Legal status and Responsible Stakeholder Agencies

16. Summary of the required compliance status in line with the ADB SPS (2009) and conditions and recommendations given in the Environmental Approvals issued by Central Environment Authority (CEA) and other stakeholder agencies, such as Department of Wildlife Conservation (DWC) and Forest Department (FD) adhering to the National Environment Act (NEA) and relevant environmental regulations, policies and frameworks described in the respective Environment Impact Assessment Reports (EIAR) prepared for NWPCP and UECP, Initial Environment Impact Assessment reports (IEER) for MLBCRP under MWSIP, and the relevant package specific updated EMPs.

17. Information about the key stakeholder agencies based on the land ownership where the contract packages are located is important for decision making and implementing actions in addition to the requirements of the Central Environment Authority (CEA). Table 3-1 summarizes those key agencies that need to be informed at the emergency period through the PMU or PIU.

Table 3-1: Environmental Risk Level and Key Stakeholder Agencies to be contact at Emergency

Construction package	Ownership of the project area	Level of Environmental sensitivity	Environment Risk level
MLBCRP-ICB-1	<ul style="list-style-type: none"> DWC ID, CEB, DS Hasalaka, MASL are the other stakeholder agencies involved in management 	<ul style="list-style-type: none"> Located in a protected area (Victoria Randenigala Rantambe – VRR sanctuary), with wildlife movements to a certain extent under the jurisdiction of FFPO High risk due to safety of cofferdam / breached anicut, temporary deep cut for the bypass canal High risk due to presence of explosive magazine / oil tanks etc. Elephant fence is maintained by DWC established around the site Public road, few residential houses located around the site 	HIGH

MLBCRP packages	NCB	<ul style="list-style-type: none"> ID Relevant DS, GN and PS authorities 	<ul style="list-style-type: none"> Residential area – Socially sensitive NCB-4 package overlaps with the wildlife protected area (National park) 	MODERATE
NWPCP-NCB-1		<ul style="list-style-type: none"> ID Relevant DS, GN and PS authorities 	<ul style="list-style-type: none"> Wemedilla tank and canal area is within a residential area with rural community 	MODERATE
NWPCP-ICB-2		<ul style="list-style-type: none"> DWC & FD Relevant DS, GN and PS authorities 	<ul style="list-style-type: none"> About 3 km of the canal is associated with the Kahalla Palkelele Sanctuary and Forest Reserve with significant amount of wildlife movements Risk of wildfires during dry weather conditions Risk of poachers, hunters entering into protected areas If the fence is damaged, elephants will invade villages Elephant fence & gates maintained through security personnel Residential, with rural community at a risk 	HIGH
UECP-ICB-1		<ul style="list-style-type: none"> DWC & FD MASL 	<ul style="list-style-type: none"> Entire canal with excavated, open sections is within the Elehera Giritala sanctuary and Forest reserve with significant amount of wildlife movements Risk of falling animals into excavated sections Presence of explosives Risk of poachers, hunters entering into protected areas Risk of wildfires during dry weather conditions 	HIGH
UECP-ICB-2B		<ul style="list-style-type: none"> FD / DWC MASL 	<ul style="list-style-type: none"> The project area is within the protected forest reserves associated with 	HIGH

		Knuckles Forest range and wildlife sanctuary <ul style="list-style-type: none"> ▪ Sensitive stream network ▪ Presence of explosives ▪ Risk of poachers, hunters entering into protected areas ▪ Possibility of wildlife fires 	
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ID- Irrigation Department, FD- Forest Department; DWC – Department Wildlife Conservation; DS – Divisional Secretary; GN – Grama Niladhari; RDA – Roads Development Authority; FFPO – Fauna Flora Protection Ordinance; CEB – Ceylon Electricity Board; MASL – Mahaweli Authority; PS – Pradeshiya Sabha

3.2 Anticipated Environmental Risks at the emergency situation

18. The main causes for the possible risks are summarized in Table 3-2 below for the active packages under MWSIP, depend on the site locality.

19. Limiting or eliminating such causes will help to reduce the probable environmental risk during this emergency period, engaging limited number of workforces for implementation and monitoring.

Table 3-2: Overall Risk Assessment for the active packages under MWSIP at the emergency situation

Project Area Cause	MLBCRP	NWPCP	UECP
Lack of regular maintenance of the sites (oil spills, contamination with other chemicals, hazardous waste material)	ICB 1 NCBs	ICB 2 NCB 1	ICB 1 ICB 2B
Lack of sufficient security arrangements	ICB 1 NCBs	ICB 2 NCB 1	ICB 1 ICB 2B
Lack of dust controlling and regular watering (material stockpile areas, access roads, construction sites associated with residential /public areas etc.)	ICB 1 NCBs	ICB 2 NCB 1	ICB 1 ICB 2B
Unlawful behaviors of the contractors (operating sites without notice to Engineer, nonpayment for the regular staff attend routine maintenance etc.)	ICB 1 NCBs	ICB 2 NCB 1	ICB 1 ICB 2B
Lack of proper slope protection in the excavated section, or canals under construction	ICB 1 NCBs	ICB 2 NCB 1	ICB 1 ICB 2B
Lack of appropriate erosion control, silt traps measures	ICB 1 NCBs	ICB 2 NCB 1	ICB 1 ICB 2B
Loss of pipeline integrity, and lack of proper site drainage arrangements	ICB 1 NCBs	ICB 2 NCB 1	ICB 1 ICB 2B
Hindrance to natural drainage and surface runoff and possible local flooding, property damages during heavy rains	ICB 1 NCBs	ICB 2 NCB 1	ICB 1 ICB 2B
Not managing large stockpiles (lack of strengthened base of stockpile, no proper drainage arrangements, no dust covers etc.)	ICB 1 NCBs	ICB 2 NCB 1	ICB 1 ICB 2B
Improper waste management	ICB 1 NCBs	ICB 2 NCB 1	ICB 1 ICB 2B
Unmanaged explosives, magazines, stores with flammable chemicals etc. during hot weather conditions	ICB 1 NCBs	ICB 2 NCB 1	ICB 1 ICB 2B
Lack of maintenance of electric and other fencing causes aggravation of Human Wildlife Conflicts	ICB 1 NCBs	ICB 2 NCB 1	ICB 1 ICB 2B
Lack of proper communication procedures adopted during emergency site closure	ICB 1 NCBs	ICB 2 NCB 1	ICB 1 ICB 2B
Lack of ground water management procedures / dewatering etc. in the deep excavated sections, which cause possible ground water depletion, community unrest due to well water level lowering during dry weather conditions	ICB 1 NCBs	ICB 2 NCB 1	ICB 1 ICB 2B
Contractor and the site are not prepared for natural disasters (flood, wildfires etc.)	ICB 1 NCBs	ICB 2 NCB 1	ICB 1 ICB 2B
Major facility faults (batching plant, chemical stores, waste treatment facilities, coffer dams etc.)	ICB 1 NCBs	ICB 2 NCB 1	ICB 1 ICB 2B
Non-routine reforestation site maintenance	ICB 1 NCBs	ICB 2 NCB 1	ICB 1 ICB 2B

High – H; Moderate – M; Low – L; Not Applicable – N/A

20. The site closure will prevent from the spreading of deadly COVID-19 disease, and community, and the work force is protected from the risk of contamination with the virus. However, at any active labour camps with gangs, the labour force is at a risk, and unrest in the community in the area is likely, due to the movements of labour in the village areas.

4 EMERGENCY ENVIRONMENT RESPONSE PLAN

4.1 Emergency Response Actions

21. The measures provided in the sections below apply to all environmental incident scenarios. These measures will be executed in response to an environmental emergency to:

- i. Reduce the threat to human life or injury
- ii. Protect against environmental damage; and
- iii. Preserve infrastructure, product, equipment and natural resources

22. Accordingly, following “Emergency Response Action” the responsibilities of the relevant parties are shown in **Table 4-1**;

Table 4-1: Responsibilities of Parties

No.	Responsibilities
I	<p>Contractor shall:</p> <ul style="list-style-type: none"> ▪ Plan the proper site closure at emergency (i.e. due placement of safety infrastructures, notification, safe parking of equipment fleet & storage of material and organize minimum required staff for regular site monitoring and maintenance with preparedness to follow GoSL special guidelines under the context and CEMP, Health Safety Plan and to duly activate the “Emergency Response Plan” protocols in case of emergency, ▪ Submit the same plan (may be a draft to be updated later) to Engineer and establish communication links during closure, ▪ Seek necessary assistance as required from Engineer/ Employer (like curfew permit)
II	<p>Engineer shall:</p> <ul style="list-style-type: none"> ▪ Obtain the “emergency site closure plan” of the Contractor and communicate with Employer to facilitate to Contractor as necessary, ▪ Ensure “site closure with complying to Contract obligations” (securing Employers obligations towards ADB and GoSL), ▪ Organize for monitoring arrangements on Contractor’s site management at closure period and submit to Employer, ▪ Establish communication link at closure period with Contractor and Employer
III	<p>Employer shall:</p> <ul style="list-style-type: none"> ▪ Obtain both Contractor’s and Engineer’s emergency closure plan, facilitate liaising with GoSL Agencies to execute same and monitoring implantation (may be drafts to be updated later), ▪ Organize to facilitate the same plans with mobilizing necessary human/ other resources, ▪ Establish communication links with key GoSL stakeholder agencies at site closure, ▪ Ensure preparedness to activate “Grievance Redress Mechanism” as suitable, ▪ Disseminate necessary information as per the “emergency site closure plan” of Contractor to the potentially vulnerable communities in addition to relevant GoSL Authorities etc.

23. More specific actions related to each construction site will be dependent on the type and location of the emergency environmental incident and may be managed by referring to the updated Environmental Management Plan (EMP).

4.1.1 Emergency response actions to be undertaken by the Contractor

24. Emergency is an unforeseen situation that threatens the employees under each contract, or the public due to disrupts or shuts down site operations which causes environmental damage.

25. Hence, the priority action required from the contractor is to submit the updated plan based on the “Emergency Response plan” that deals with all types of environmental issues specific to the construction areas.

26. The environmental risk assessment carried out to prepare the CEMP based on your construction program and detail construction activities will provide a guideline to determine the content of the emergency action plan, and must include a minimum of the details shown in :**Table 4-2.**

Table 4-2: Actions to be Taken

Category	Action to be Taken
Environment Risk and required mitigations	<ul style="list-style-type: none"> • Obtain an inventory of key environment/ social and safety issues observed with respect to each contract along with mitigation measures that had been adopted/ in place referring to updated EMP/CEMP and particular MS approved by Engineer • assess each such action and decide on issues/ project sites which would need special focus (E.g. cut slope sections which could collapse in an even of rain/ flood, risk on animals due to open cut sections through wildlife areas etc.)
Site closure plan	<ul style="list-style-type: none"> • Plan for the proper site closure at emergency (i.e. due placement of safety infrastructures, due arrangement for stream diversions, drainage arrangements, personnel for security, relevant notification, safe parking of equipment fleet & storage of material in line with the Health Safety Plan, “Emergency Response Plan” etc. • Environmental management system to be in place, including procedures for employees who remain to perform or shut down critical plant operations, operate fire extinguishers, or perform other essential services that cannot be shut down • The site lay out plan with above relevant details and also indicating active and shut down areas, traffic plan for public during site closure, emergency escape procedures, indicating route maps, refuge areas
Monitoring & Maintenance mechanism	<ul style="list-style-type: none"> • Plan to organize minimum required staff for regular site monitoring and maintenance indicating list of names of the responsible personnel, with preparedness to follow GoSL special guidelines under the context of Covid 19
Communication and reporting procedure	<ul style="list-style-type: none"> • Updated list of key personnel such as the plant managers, EHS officers in order of priority, to notify in the event of an emergency during off-duty hours

Category	Action to be Taken
	<ul style="list-style-type: none"> • Display for public when the site is located in a residential or public area; • An alternative communications centre to be used in the event of a fire or explosion; and a secure on- or offsite location to store originals or duplicate copies of documents, emergency contact lists, and other essential records • Reporting procedure (same as before using updating Environment issue log, grievance log and share with the engineer/EMS through e-mail; daily, weekly, monthly reporting as applicable through e-mail, phone etc.)
Availability of other resources to response at emergency situations	Refer section 4.2 of EEAP

4.1.2 Role of Engineer / PMDSC at the emergency situation

27. ES and EMS of the Environmental team will be alert on the situation, and random site visits shall be made to monitor the site conditions, and update to the CRE, RE to inform the PMU/PIU safeguard cell;

28. Community consultation and contacts with the contractor's Environment Officer will be maintained regularly to obtain any information related to possible environmental risks;

29. Reporting and communication procedure will be followed as described in this action plan.

4.1.3 General response to an emergency environmental incident

30. General response measures are outlined in Table 4-1.

Table 4-3: General response measures to be adopted at an emergency environmental incident

(1) Evacuate	<ul style="list-style-type: none"> ▪ All Non-essential people ▪ Any critical / endangered fauna/flora species on the life threat ▪ Any critical natural resources
(2) Eliminate	<ul style="list-style-type: none"> ▪ Sources of ignition, sparks etc.
(3) Stop and Coordinate	<ul style="list-style-type: none"> ▪ Stop Source of the incident (e.g. spill) and coordinate shut down of relevant equipment, if possible
(4) Notify	<ul style="list-style-type: none"> ▪ Internal and external notifications <ul style="list-style-type: none"> (a) All emergency environmental incidents must be reported to the RE immediately, and RE to notify the CRE, ES/EMS of PMDSC, PIU/PMU (b) Contractor's EO to attend regular environmental incident reporting and inform the ES/EMS to monitor (c) ES/EMS will Carry out Environment Incident Reporting (EIR) following the normal procedures after visiting the site and notify to the RE to instruct the Emergency Task force of the contractor to implement
(5) Identify	<ul style="list-style-type: none"> ▪ Identify appropriate mitigatory measures following applicable safety precautions, regulatory requirements and relevant stakeholder agencies to inform etc.

(6) Mitigate / isolate	<ul style="list-style-type: none"> Adopt applicable mitigatory measures to manage the situation If unable to mitigate, set up perimeter to isolate the area and barricade until permanent mitigations are adopted
(7) Evaluate	
(8) Document	
(9) Investigate and remediate	

4.2 Resources for Response Action

4.2.1 Key contact list

31. Table 2-1 summarizes the key contacts of the environmental task force active during the emergency situation. In addition, the key contact list of the key relevant response personnel from the PMDSC, PMU, Contractor's staff to be circulated among the MWSIP members and notified / displayed at all the sites.

4.2.2 Emergency equipment

- Necessary emergency response equipment, such as water bowsers, sandbags, extinguishers, barricade tape, alarms etc. as determined from the risk assessment of the individual sites must be available to respond to emergency environmental incidents. EMS coordinate with contractors to see such equipment are available under the emergency equipment list.
- All emergency equipment must be (a) well placed, installed in accordance with the manufacturer's instructions, relevant standards; (b) readily accessible and within a reasonable distance from the source of hazard, (c) and have appropriate signage and lighting
- Emergency equipment inventory shall be regularly inspected, tested and maintained in accordance with relevant legislative requirements
- Relevant personnel will be trained, and competent to use the emergency equipment

4.3 Environmental Monitoring

32. Environmental monitoring will be conducted in response to an emergency environmental incident. The specific aspects of the environmental monitoring shall be determined by the Environmental Monitoring Specialist (EMS) and ES of PMDSC depending on the location, nature, significance of the environmental issue with inputs from counterpart staff of PIU and PMU, who may also consult relevant Government Authorities as necessary. The plan shall be implemented on emergency basis with the approval of PMU .

33. More robust sampling, analysis will be conducted in the post incident investigation, assessment, and, if required, remediation activities. This will include implementation of environmental monitoring programs (e.g., when contaminants have been released to land or water) with the participation of relevant authorities and organizations recognized by CEA.

4.4 Communication

34. Depending on the significance of the environmental incident, the required level of communication will vary, and communication protocols are set forth under PMDSC Environmental management system with the coordination of the employer, PMU and PIU, as shown in Table 4-2. PMDSC Communication specialist will be made aware by the ES-PMDSC on any environmental emergency situation.

35. Internal communication, within the MWSIP Environment team will be done regardless of the level of environment significance of the issue.

Table 4-4: Communications Protocol

Category	Required Action
Internal Notifications	<ul style="list-style-type: none"> ▪ The observer recorded of the environmental incident should notify to the RE and EMS of PMDSC immediately over the phone or e-mail. ▪ All emergency environmental incidents shall be recorded in a form of “Environment Incident Record” by ES/EMS of PMDSC and inform to RE, and RE to inform contractor, PMU, PIU ▪ Contractor to register all environmental incidents in the Environmental issue log and share with the RE and RE to inform PMDSC Environment team
Regulatory notifications & reporting Stakeholder notifications	<ul style="list-style-type: none"> ▪ Notifications to the regulatory bodies (CEA, GSMB etc.), relevant stakeholder agencies (DWC, FD, Local Government Authorities etc) including ADB (financing agency) will be submitted through the employer (PMU, PIU) once the incident is reported by the Engineer/PMDSC to the employer ▪ Follow-up reporting regarding the incident details, impacts, in a form of corrective action plan shall be prepared by the employer (PMU/PIU) with the assistance of the PMDSC ▪ Compensations on the damages and the corrective actions shall be implemented through the contractor as per the contractual requirements, and if it's a violation of the GoSL regulations (FFPO or Forest Ordinance) penalties will be charged through the department legal provisions after notifying to the Employer
Community notifications (to and from)	<ul style="list-style-type: none"> ▪ Community notifications occur both ways. If any environmental risk, emergency situation observed by the community, community will inform the project through the GRM, or notify to the SEO of PIU, EMS of PMDSC, Contractor's EO ▪ If any environmental hazard, or risk which have an impact on the community, Contractor jointly with the PIU and GS of GND, under the guidance of PMDSC ES/EMS will be communicated to the relevant community, residents, villagers by means of notices, verbally etc.

Annex 2: Guidance Note on updating Contractor's Environmental Management Plan (CEMP)

MAHAWELI WATER SECURITY INVESTMENT PROGRAM**Subject: GUIDELINE FOR UPDATING CEMP**

Date: 21 May 2020

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2	Directions by ADB SPS (2009)	2
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Annex 1 - ADB directions related to the application at the workplace to prevent Covid 19**Annex 2 - CEMP guidance note issued at contract mobilization****Annex 3 – WHO guidelines for public health and social measures in the workplace in the context of COVID-19**

1 Why CEMP Needs to be Updated

1. "Contractor's Environmental Management Plan" (CEMP) is a 'live' document that are reviewed and updated at regular intervals throughout the project life cycle by the contractor, to ensure that CEMP includes all required mitigatory measures as per the ongoing construction program, as well as it address all regulatory compliance requirements.
2. The amendments to the CEMP will be required at following circumstances:
 - (i) When country or project area experience an emergency situation due to a natural disaster, communicable disease outbreak like Covid 19, conflict situation where the workers, or the surrounding community is vulnerable to any health or environmental hazard (ADB SPS (2009));
 - (ii) If any design change, deviation of the project footprint, or change of construction methodology etc.
 - (iii) If the license, permits are expired for the key construction related activities (mining / blasting, operation of Contractor's facilities like batching plant, disposal areas,
 - (iv) Where unanticipated environmental impacts become apparent during project period (ADB SPS (2009));
 - (v) When the work program and scheduled construction period is outdated;
 - (vi) If additional construction work is included for the construction program which were not originally planned etc.
 - (vii) If the Central Environmental Authority (CEA), ADB or any other stakeholder agency identify the requirement of revising or updating the EMP by PMDSC, subsequently the contractor requires to update the CEMP based on the content updated in the EMP

2 Directions by ADB SPS (2009)

3. ADB Safeguard Policy Statement (SPS) 2009 is one of the key governing documents in the MWSIP, as the project is funded by ADB, and hence comply with the directions of the ADB safeguard policies is a mandate for all the contracts.
4. Safeguard policies are generally understood to be operational policies that seek to avoid, minimize, or mitigate adverse environmental and social impacts, including protecting the rights of those likely to be affected or marginalized by the development projects.
5. With the outbreak of Covid 19 pandemic in Sri Lanka, it was considered as an unanticipated environmental impact which arises the need of updating the safeguard documents indicating relevant emergency responses, mitigation measures prior to start up the site work.
6. Hence, following are the ADB directions related to the CEMP update, as well as adopting required safeguard management measures in the worksite and project affected areas responding the emergency situation.

Reference to SPS (2009)	Directives related to ESS
Appendix 1, Para 23	<ul style="list-style-type: none">Where unanticipated environmental impacts become apparent during project implementation, the borrower will update respective safeguard documents (EIA and EMP, CEMP etc.) to assess the potential impacts...and outline mitigation measures.
SPS Environment Policy Principal 10	<ul style="list-style-type: none">Provide workers with safe and healthy working conditions and prevent accidents, injuries, and disease.

Reference to SPS (2009)	Directives related to ESS
	<ul style="list-style-type: none"> Establish preventive and emergency preparedness and response measures to avoid, and where avoidance is not possible, to minimize, adverse impacts and risks to the health and safety of local communities.

7. Accordingly, when updating the CEMP;

- (i) Identify and assess the risks and potential impacts on the environment and safety aspects,
 - (ii) Establish preventive measures and include in the safeguard plans (CEMP, Emergency Preparedness and Response Plan, Health & Safety Plan etc.) to address the identified risks and impacts, mitigation measures, monitoring plans including monitoring checklists to be adopted as per the H&S and environmental safeguard requirements (i.e. Daily checklist introduced to verify the health status of the workers and not affected with Covid 19)
 - (iii) Disclose the plans to the affected communities through governing bodies (PMDSC, PIU/PMU etc.)
8. Refer **Annex 1** which indicate ADB directions related to the application at the workplace to prevent Covid 19.

3 How to revise or update the CEMP

9. The purpose of a CEMP is to outline how to avoid, minimise or mitigate environmental risks results due to project activities on the direct and indirect project affected areas. The general Guideline for the preparation of CEMP is included in the Environment Impact Assessment (EIA) for NWPCP¹ and UECP² or Initial Environment Examination (IEE) for Minipe³ as well as in the pamphlet issued to the contractors for their easy reference (Refer **Annex 2**) prepared addressing both ADB⁴ and CEA requirements.
10. The amendments to the CEMP need to be attended depending on the requirement as explained under the paragraph 2, referring to the sample Table mentioned below:

	Requirement for the CEMP update	What needs to be included and sections to be amended
(i)	When country or project area experience an emergency situation due to a natural disaster, communicable disease outbreak or conflict situation	<p>Update the CEMP:</p> <ul style="list-style-type: none"> Include “Site specific Emergency preparedness and response measures” under separate Chapter, that needs to be followed based on the specific emergency situation (i.e. Covid 19 referring to the Contractor’s Health & Safety plan) as well as referring to the ADB SPS (2009) requirements highlighted in the Section 2 of this guidance note. Revise “Risk Assessment Matrix”, indicating any unanticipated environmental impacts / risk that can be arise due to the aforesaid emergency situation, identifying required mitigations, additional facilities such as contract camps, health, safety facilities, Public health and social measures in

¹ Refer Chapter 09 Section (iii) of EIAR for NWPCP (June 2015)

² Refer Section 9.2 of EIAR for UECP (June 2015)

³ Refer Part H of IEER for MLBCRP (April 2015)

⁴ Environment Management for Construction Handbook, prepared by Safeguard Unit Central & West Asia Department of ADB

	Requirement for the CEMP update	What needs to be included and sections to be amended
		<p>the construction site, area of influence in the context of Covid 19 as per WHO guidelines⁵ (Refer Annex 3) etc;</p> <ul style="list-style-type: none"> ▪ Include or revise the existing “Monitoring program” to verify that the CEMP is implemented effectively at site level with the necessary supporting documents (daily checklist for H&S aspects, periodical monitoring checklist use to monitor day today site environmental management etc.) ▪ Update “applicable key environmental regulations, approval requirements, institutional arrangements” as per the updated date, also including any additional approval requirements as per the “emergency situation” ▪ Include “Updated Construction Program” as per the update date of CEMP
(ii)	<p>When any design change, deviation of the project footprint, or change of construction methodology;</p> <p>License, permits are expired;</p> <p>Work program is extended due to additional work, or inability of completing the work during the agreed construction period</p>	<p>Update the CEMP:</p> <ul style="list-style-type: none"> ▪ Revise “Risk Assessment Matrix”, indicating any unanticipated environmental impacts / risk that can be arise due to the aforesaid design change, change of footprint or construction methodology; ▪ Indicate any required mitigations, additional facilities such as disposal areas, material requirements, additional stream diversions, access roads, fencing arrangements, facilitating wildlife movements etc; ▪ Update regulatory requirements, construction program up to date as required.
(iii)	<p>If the Central Environmental Authority (CEA), ADB or any other stakeholder agency identify the requirement of revising or updating the EMP by PMDSC</p>	<p>Contractor requires to update the CEMP based on the content updated in the EMP, and as per the requirements highlighted by the relevant stakeholder agency</p>

4 Whom to approve and implement CEMP

11. Preparation of CEMP and approval from the Engineer / Project Manager of PMDSC is a contractual requirement which is recommended in the approved EIA for NWPCP and UECP or IEE for Minipe and for all the contract packages including National Competitive Bidding (NCB) and International Competitive Bidding (ICB) contracts prior to commence the site work, including establishment of contractor facilities, site clearing, site preparation and carry out all construction work.
12. All ICB contracts includes BOQ item in Bill No.01 under the General requirements to make partial payment (preferably 40 %) as decided by the RE, ES – PMDSC depending on the acceptability of the first draft of the CEMP prior to commence the construction work. The balance shall be paid as 10 % for each acceptable updated version of CEMP including the required amendments up to maximum 6 revisions.
13. The implementation of CEMP, complying with all required GoSL and ADB environmental requirements, regulations and safeguard policies is an obligation of the respective contractor, through a qualified, dedicated Environmental Officer.

⁵ Considerations for public health and social measures in the workplace in the context of COVID-19 (10 May 2020), WHO

COVID 19 - PANDEMIC APPLICATION OF INTERNATIONAL GOOD PRACTICE OHS AT THE WORKPLACE

Webinar by SDSS supported by HSG, OGC & PPFD
(14/05/2020)

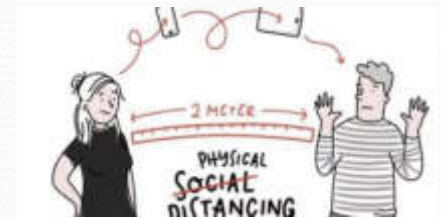
What Are the Issues?



What support do DMCs need?

Health & Safety Plans

What is our duty of care?



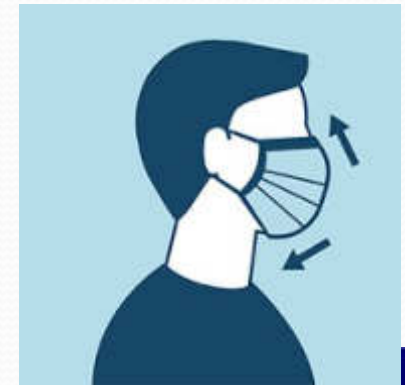
Update of H&S Plans
- Physical distancing
Hand washing,
enhanced worker
screening etc.
Site specific plans
needed



Management of risks to
workers, community,
vulnerable groups



Unanticipated Risks -
Potential infection and
spread of virus



What does the SPS Say?

- ❑ **SPS Environment Policy Principle 10:**
 - **Provide workers with safe and healthy working conditions and prevent accidents, injuries, and disease.**
 - **Establish preventive and emergency preparedness and response measures to avoid, and where avoidance is not possible, to minimize, adverse impacts and risks to the health and safety of local communities.**

- ❑ **Appendix 1, para 23:** Where **unanticipated environmental impacts** become apparent during project implementation, the borrower will update the **EIA and EMP** to assess the potential impacts...and outline mitigation measures.



COVID 19 impacts are unanticipated impacts

What does the SPS Say?....

10. Health and Safety

a. Occupational Health and Safety

40. The borrower/client will provide workers¹² with a safe and healthy working environment, taking into account risks inherent to the particular sector and specific classes of hazards in the borrower's/client's work areas, including physical, chemical, biological, and radiological hazards. The borrower/client will take steps to prevent accidents, injury, and disease arising from, associated with, or occurring during the course of work by (i) identifying and minimizing, so far as reasonably practicable, the causes of potential hazards to workers; (ii) providing preventive and protective measures, including modification, substitution, or elimination of hazardous conditions or substances; (iii) providing appropriate equipment to minimize risks and requiring and enforcing its use; (iv) training workers and providing them with appropriate incentives to use and comply with health and safety procedures and protective equipment; (v) documenting and reporting occupational accidents, diseases, and incidents; and (vi) having emergency prevention, preparedness, and response arrangements in place.

41. The borrower/client will apply preventive and protective measures consistent with international good practice, as reflected in internationally recognized standards such as the World Bank Group's *Environment, Health and Safety Guidelines* (footnote 7).



Environmental, Health, and Safety (EHS) Guidelines
GENERAL EHS GUIDELINES: INTRODUCTION



Environmental, Health, and Safety
General Guidelines

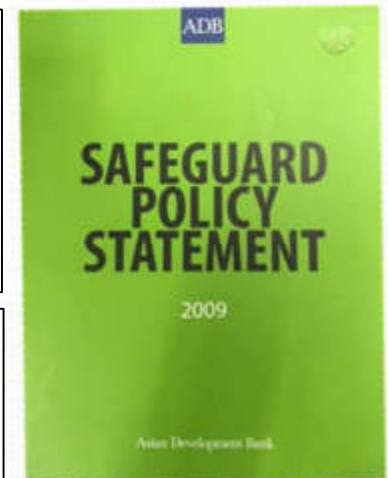


What does the SPS Say?.....

b. Community Health and Safety

42. The borrower/client will identify and assess the risks to, and potential impacts on, the safety of affected communities during the design, construction, operation, and decommissioning of the project, and will establish preventive measures and plans to address them in a manner commensurate with the identified risks and impacts. These measures will favor the prevention

43. The borrower/client will inform affected communities of significant potential hazards in a culturally appropriate manner. The borrower/client will be prepared to respond to accidental and emergency situations. This preparation will include response planning document(s) that addresses the training, resources, responsibilities, communications, procedures, and other aspects required to respond effectively to emergencies associated with project hazards. Appropriate information about emergency preparedness and response activities, resources, and responsibilities will be disclosed to affected communities.



		Severity/Consequence		
		Slightly harmful (1)	Harmful (2)	Extremely harmful (3)
Likelihood	Highly unlikely (1)	Trivial risk (Score 1)	Tolerable risk (Score 2)	Moderate risk (Score 3)
	Unlikely (2)	Tolerable risk (Score 2)	Moderate risk (Score 4)	Substantial risk (Score 6)
	Likely (3)	Moderate risk (Score 3)	Substantial risk (Score 6)	Intolerable risk (Score 9)

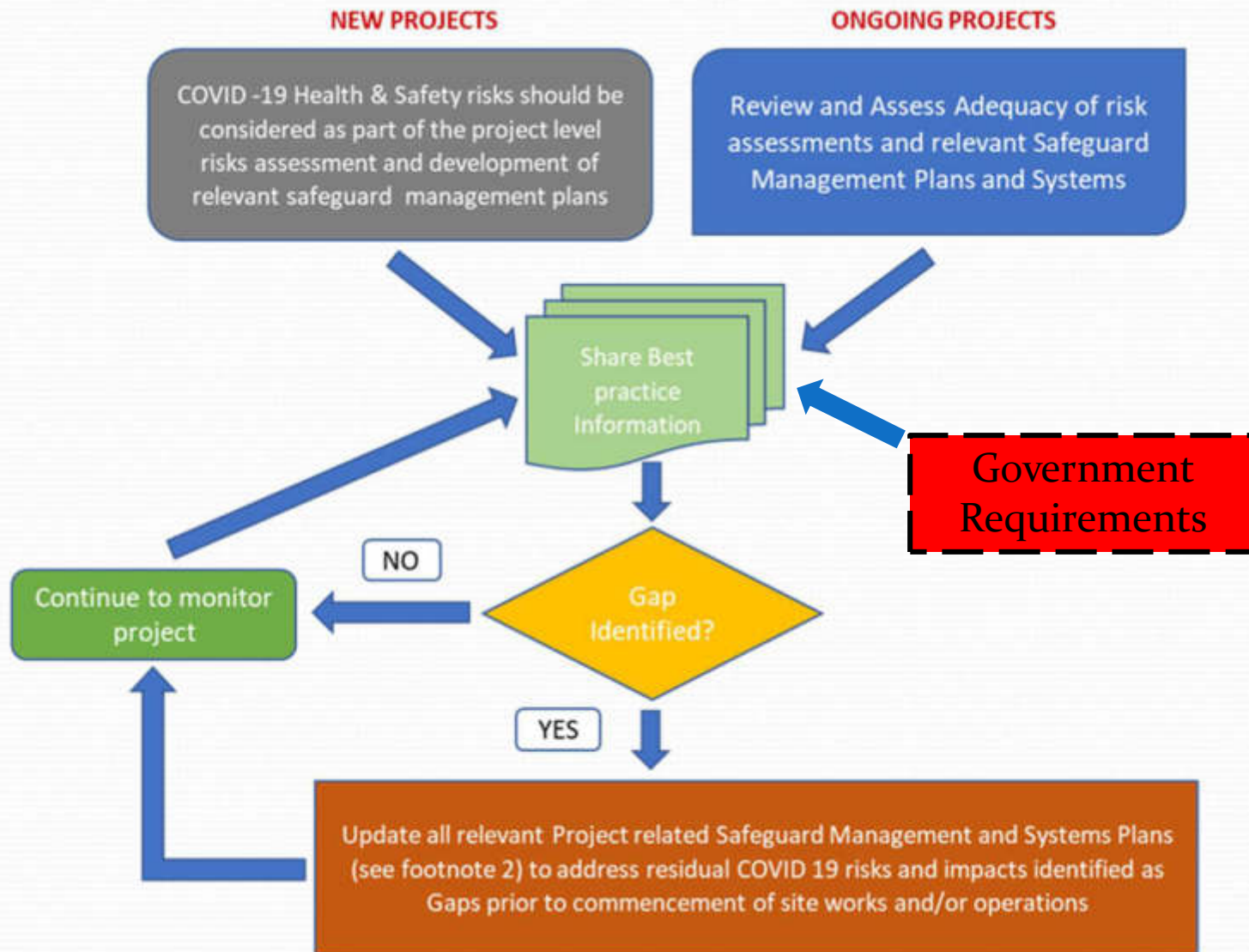
Workplace Risk Assessment is Key

What is the hazard- COVID 19 Virus

What is the likely of spreading at the workplace - **High**

What is the severity of impact should the hazard occur - **High**

What Needs to be done?....



Safeguard Management Plans

Adopt A Risk Based Approach

Environment Management Plan
[EMP]

- Endorsed by ADB at Project approval.
- Will require high level update by **PMU**–
- Note Disclosure Requirements following update

Construction EMP

Operations
EMP

Health and Safety Management Plans

Site Specific H&S
Plan

Work Specific H&S
Plan

Operations
Maintenance H&S
Plan

It is very important to ensure that these Plans have been updated by the **Contractor/ Sup Engineer**

What about Category “C” rated Projects??

CAP and H&S Plan may be required following review & Risk Assessment

Options To Consider.....

Depends on the stage of project implementation and nature of works

EMP

- High level update
- PMU may lack the capacity to update
- Utility in addressing COVID 19 may be limited.
- ESIA/Addendum may be required

Corrective Action Plan (CAP)

- High Level update as well
- CAP Technically brings EMP into compliance due to COVID 19 unanticipated impacts
- Comparatively easier to update and disclose
- Regular Monitoring Report to assess effectiveness of implementation

PMU

Either route may be okay from the safeguard perspective but may depend on legal, nature and stage of project implementation

Needs to be cascaded by PMU to Contractor Level

Health and Safety Management Plan

Site specific H&S
Plan

Work Specific H&S
Plan

Operations
Maintenance H&S
Plan

Contractor/Engineer

Maybe called different names. Critically important PMU ensures its been updated as part of EMP obligation

COVID Good Practices At Workplace

Preventive measures

- Physical Distancing
- Respiratory and Hand Hygiene



Detection measures

- Enhanced worker screening protocols
- Continuous monitoring at workplace

Response Measures

- Workers with COVID symptoms
- Workplaces reported to have been contaminated by infected persons

The New Normal at the workplace

ADB

Hand Hygiene



- Regular and thorough handwashing with soap and water or hand hygiene with alcohol-based hand-rub
 - before starting work, before eating, frequently during the work shift, especially after contact with co-workers or customers,
 - after going to the bathroom, after contact with secretions, excretions and body fluids, after contact with potentially contaminated objects (gloves, clothing, masks, used tissues, waste), and immediately after removing gloves and other protective equipment but before touching eyes, nose, or mouth.
- Hand hygiene stations, such as hand washing and hand rub dispensers, should be put in prominent places around the workplace and be made accessible to all staff, contractors, clients or customers, and visitors along with communication materials to promote hand hygiene.

Respiratory Hygiene



- Promote respiratory etiquette by all people at the workplace. Ensure that medical face masks and paper tissues are available at the workplace, for those who develop a runny nose or cough at work, along with bins with lids for hygienic disposal.
- Develop a policy on wearing a mask or a face covering in line with national or local guidance. Masks may carry some risks if not used properly.
- If a worker is sick, they should not come to work. If a member of staff or a worker feels unwell while at work, provide a medical mask so that they may get home safely.
- Where masks are used, whether in line with government policy or by personal choice, it is very important to ensure safe and proper use, care and disposal.

Physical distancing



- Keep a distance of at least 1 meter between people and avoid direct physical contact with other persons (i.e. hugging, touching, shaking hands), strict control over external access, queue management (marking on the floor, barriers)
- Reduce density of people in the building (no more than 1 person per every 10 square metres), physical spacing at least 1 meter apart for work stations and common spaces, such as entrances/exits, lifts, pantries/canteens, stairs, where congregation or queuing of employees or visitors/clients might occur.
- Minimize the need for physical meetings, e.g. by using teleconferencing facilities
- Avoid crowding by staggering working hours to reduce congregation of employees at common spaces such as entrances or exits
- Implement or enhance shift or split-team arrangements, or teleworking
- Defer or suspend workplace events that involve close and prolonged contact among participants, including social gatherings.

Reduce and manage work-related travels



- Cancel or postpone non-essential travel to areas with community transmission of COVID-19
- Provide hand sanitizer to workers who must travel, advise workers to comply with instructions from local authorities where they are travelling, as well as information on whom to contact if they feel ill while travelling.
- Workers returning from an area where COVID-19 transmission is occurring should monitor themselves for symptoms for 14 days and take their temperature twice a day; if they are feeling unwell, they should stay at home, self-isolate, and contact a medical professional.

Regular environmental cleaning and disinfection



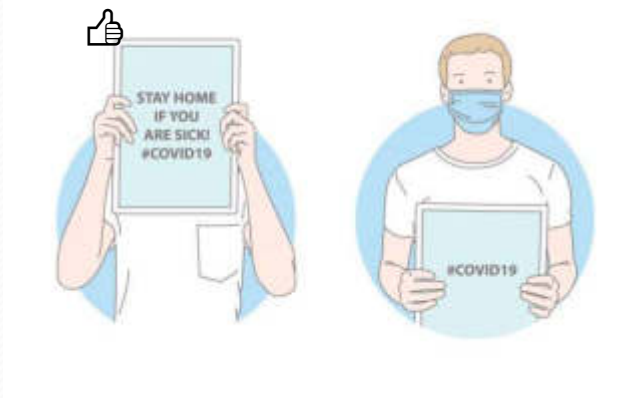
- Cleaning (soap, water, and mechanical action) to remove dirt, debris, and other materials from surfaces. Disinfection of dirty surfaces and objects only after cleaning
- Most common disinfectants – sodium hypochlorite (bleach) of surface at concentration 0.1% or alcohol at least 70% concentration for surfaces which can be damaged by sodium hypochlorite.
- Priority disinfection of high-touch surfaces - commonly used areas, door and window handles, light switches, kitchen and food preparation areas, bathroom surfaces, toilets and taps, touchscreen personal devices, personal computer keyboards, and work surfaces.
- Disinfectant solutions must always be prepared and used according to the manufacturer's instructions, including instructions to protect the safety and health of disinfection workers, use of personal protective equipment, and avoiding mixing different chemical disinfectants.
- Spraying or fogging of disinfectants in indoor workplaces and large-scale spraying or fumigation outdoors is not generally recommended.
- Spraying and fogging of people with disinfectants (such as in a tunnel, cabinet, or chamber) is not recommended under any circumstances.

Risk communication, training, and education



- Provide posters, videos, and electronic message boards to increase awareness of COVID-19 among workers and promote safe individual practices at the workplace, engage workers in providing feedback on the preventive measures and their effectiveness.
- Provide regular information about the risk of COVID-19 using official sources, such as government agencies and WHO, and emphasize the effectiveness of adopting protective measures and counteracting rumours and misinformation.
- Special attention should be given to reaching out to and engaging vulnerable and marginalized groups of workers, such as those in the informal economy and migrant workers, domestic workers, subcontracted and self-employed workers, and those working under digital labour platforms.

Management of people with COVID-19 or their contacts



- Workers who are unwell or who develop symptoms consistent with COVID-19 to stay at home, self-isolate, and contact a medical professional or the local COVID-19 information line for advice on testing and referral (consider telemedicine and flexible sick leave policy).
- All workers to self-monitor their health, possibly with the use of questionnaires, and take their body temperature regularly.
- Thermal screening at the workplace to be considered only in the context of a combination of measures for prevention and control of COVID-19 at the workplace and along with risk communication.
- Standard operating procedures to be prepared to manage a person who becomes sick at the workplace and is suspected of having COVID-19, including isolation, contact tracing and disinfection.
- People who were in close contact at the workplace with persons with laboratory-confirmed COVID-19 should be quarantined for 14 days from the last time of the contact in accordance with WHO recommendations.

Additional measures for workplaces and jobs at medium risk



- Enhanced cleaning and disinfection of objects and surfaces that are touched regularly, including all shared rooms, surfaces, floors, bathrooms, and changing rooms;
- Where the physical distancing of at least 1 metre cannot be implemented in full in relation to a particular activity, workplaces should.
 - ✓ consider whether that activity needs to continue, and if so,
 - ✓ take all the mitigating actions possible to reduce the risk of transmission through work organization and engineering control
- Enhanced hand hygiene – hand washing with soap and water or use of alcohol-based hand rub
 - ✓ before entering and after leaving enclosed machinery, vehicles, confined spaces
 - ✓ before putting on and after taking off personal protective equipment;
- Personal protective equipment and training on its proper use
- Increased ventilation rate, through natural aeration or artificial ventilation, preferably without re-circulation of the air.

Additional measures for workplaces and jobs at high risk



- Assess the possibility of suspending the activity;
- Adherence to hygiene before and after contact with any known or suspected case of COVID-19, before and after using PPE;
- Use of medical mask, disposable gown, gloves, and eye protection for workers who must work in the homes of people who are suspected or known to have COVID-19.
- Use the protective equipment when in contact with the sick person, or respiratory secretions, body fluids, and potentially contaminated waste;
- Training of workers in infection prevention and control practices and use of personal protective equipment;
- Avoid assigning tasks with high risk to workers who have pre-existing medical conditions, are pregnant, or older than 60 years of age.

Rights, duties, and responsibilities of workers and employers



- Collaborate with health authorities in the prevention and control of COVID-19.
- Employers to provide engineering and administrative controls and PPE for occupational safety and health and infection prevention and control at no expenditure on the part of workers.
- Workers to follow established measures for occupational safety and health and infection prevention and control procedures
- Co-operation between management and workers and their representatives is an essential element of workplace-related prevention measures
- COVID-19 and other diseases, if contracted through occupational exposure, could be considered as occupational diseases.

Plan of action



- Develop action plan for prevention and mitigation of COVID-19 as part of the business continuity plan, risks and epidemiology
- Protecting health, safety, and security in re-opening, closing, and modifying workplaces and work arrangements.
- Re-opening of workplaces to be carefully planned in advance and all possible risks for health and safety properly controlled.
- Monitor compliance and update regularly
- Address other occupational health and safety risk - ergonomic problems, heavy workloads and long working hours, remote working, psychosocial risks, poisonings, etc.
- Occupational health services to strengthen their capacity for infection prevention and control, medical surveillance, and psychosocial support.
- Consult workers and their representatives in developing and implementing action plans
- Local authorities and local public health authorities to provide risk communication and community engagement for non-organized groups of workers (domestic workers, workers in the informal economy, digital labour platforms)
- No discrimination in the access of workers to protective measures for prevention of COVID-19 - refugee and migrant workers should have equal access to PPE and support services
- Prevent social stigma of workers suspected of being infected, infected with, or recovered from COVID-19.

Recommendation.....

1. Portfolio Review and Identify projects with high exposure risks to COVID 19

- ❖ Project sites with large workforce on site.
- ❖ Project sites with large labor force on site and host/surrounding communities
- ❖ Project sites with large worker accommodations on site or within host/surrounding communities.

Low exposure risk

jobs or work tasks without frequent, close contact with the general public and other co-workers, visitors, clients or customers, or contractors, and that do not require contact with people known to be or suspected of being infected with COVID-19.

Medium exposure risk

jobs or work tasks with close (< 1 m) frequent contact with the general public, or other co-workers, visitors, clients or customers, or contractors, but that do not require contact with people known to be or suspected of being infected with COVID-19.

High exposure risk

jobs or work tasks with high potential for close contact with people who are known or suspected of having COVID-19, as well as contact with objects and surfaces possibly contaminated with the virus.

2. Notify the PMU EA/IA/PIU in charge of the identified Projects about the need to review and prepare/update H&S Plans ahead of commencement of site works.



Support.....Need to work together



Strengthening Safeguard Implementation in ADB Projects – SSIAP TA - 53125

Technical Support : OHS Consultant currently onboarding. Will provide support with development of Sector specific Guidance documents to help manage OHS issues on our projects including COVID 19.



Training and Webinar : We recognize some PMU's may need support to translate the International best practice guidance and information notes/posters into their local languages.



Reasonable Budget Support : We recognize some PMU's may need support to translate the International best practice guidance and information notes/posters into their local languages.



