

Environmental Monitoring Report

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Sri Lanka: Mahaweli Water Security Investment Program – Tranche 1

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

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Guide for the preparation of Contractor's Environmental Management Plan (CEMP)



MWSIP



Mahaweli

Water Security Investment Program

is a Sustainable Development Effort



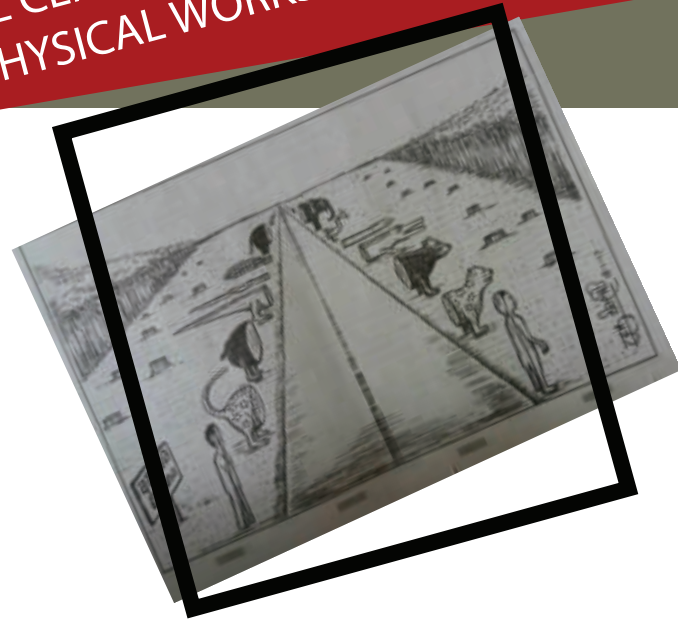
CEMPs & Constructions

**"UNTIL CEMP IS APPROVED,
NO PHYSICAL WORKS ON SITE"!**

CEMP is a site specific environmental management Plan which is applied to the actual site where construction activities will occur. CEMP is a contractual obligation, and within 56 days after the commencement date, submit the draft CEMP to the Resident Engineer (Project Manager) for review with a copy to PD-PIU (Employer)

Within 28 days after receiving the Draft CEMP, Environmental Specialist / Environmental Monitoring Specialist (PMDSC) shall review the Draft CEMP and Engineer (Project Manager) will notify the contractor of any requests for amendments. The contractor shall in cooperate the amendments requested and shall issue the final CEMP for the contract which shall be binding of the Contractor.

**"UNTIL CEMP IS APPROVED NO
PHYSICAL WORKS ON SITE"!**



Most common failures of environmental management are the start of the construction before the necessary CEMP has been prepared.

When this happens, the construction team has no guidance as to what environmental management measures are required, and so there is a high probability that environmental damage will occur.

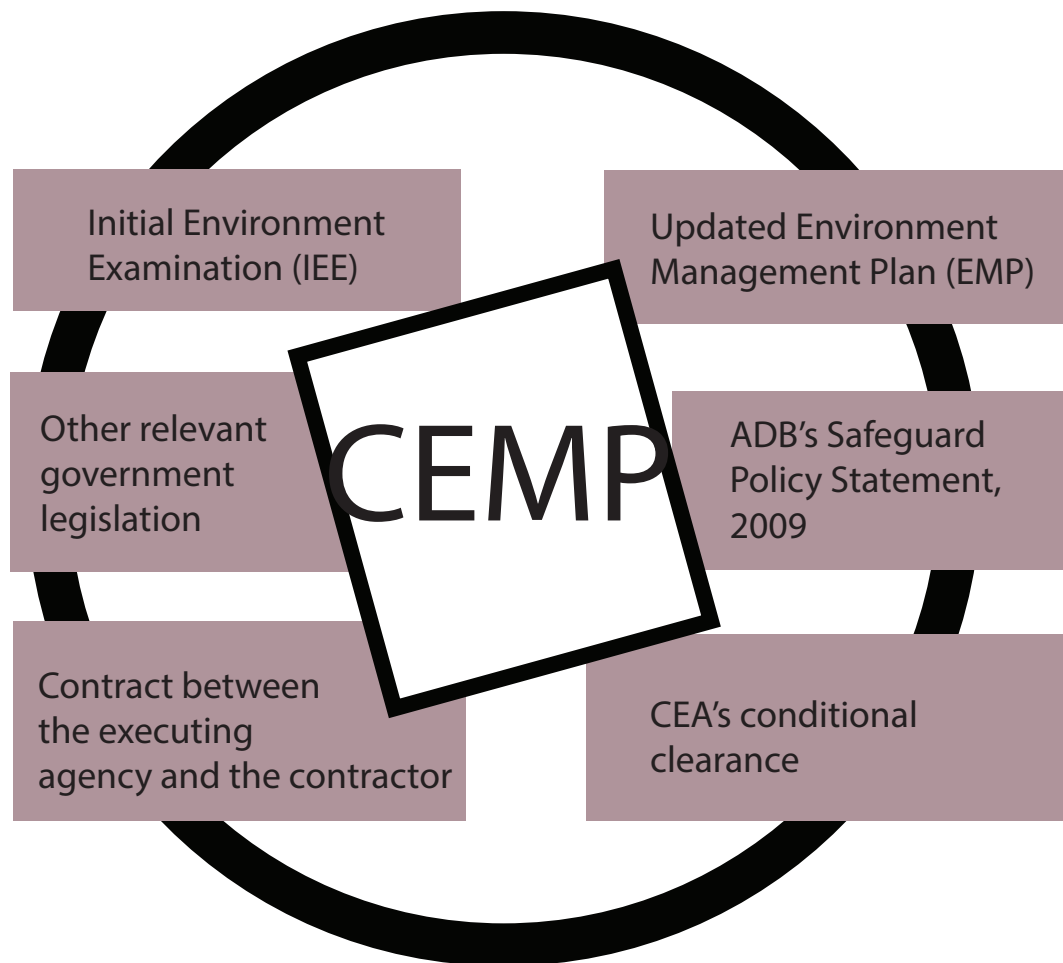
Difficult to retrofit the environmental management requirements after the construction activities have started. Proper planning therefore essential beforehand.

CEMP preparator and the implanter needs to have sense of nature and knowledge in biological components associate with the environment. So, BIOLOGIST is always preferred as the Environmental Officer of the Contractor who prepares and implement CEMP where project activities associated with sensitive ecosystems.



**"UNTIL CEMP IS APPROVED,
NO PHYSICAL WORKS ON SITE"!**

Governing Documents




Steps to Prepare a CEMP

First..

EO of the contractor to be well familiarized about the project area, project activities and construction plan.

Then..

- 
- Define boundaries (footprint – then decide if it is one EMP or multiple EMPs)
 - Identify sensitive Receivers & environment values (IEE, EMP and site visits)
 - Specify construction activity (surveying, site clearing, soil stripping, earth movement, preparing concrete mix, pouring concrete etc,)
 - Carry out Risk Assessment - Identify risks and mitigation measures.
 - Assignment of environmental management measures to implement CEMP ensuring that Env team in contractor's party are carried out all measures
 - Preparation of site plans
 - Preparation of environmental work plans
 - Self-Monitoring by the Contractor

Definition of project boundaries?

Define footprint of the construction activities, other contractor's facility locations, disposal areas, borrow areas (if any), worker camp areas, machinery yards, access roads, transportation routes of borrow, disposal material etc.)

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Identification of environmental values and sensitive receptors of the site and its surrounds

Once the site boundaries are defined, the sensitive receptors and the environmental values of the area need to be confirmed. The EIA/IEE document and the updated EMP shall often provide the necessary information. Such information can be presented as an overlay of the engineering drawings or maps

Define boundaries (footprint – then decide if it is one EMP or multiple EMPs)

Identify sensitive Receivers & environment values (IEE, EMP and site visits)

Specify construction activity (surveying, site clearing, soil stripping, earth movement, preparing concrete mix, pouring concrete etc.)

Carry out Risk Assessment - Identify risks and mitigation measures.

Assignment of environmental management measures to implement CEMP ensuring that Env team in contractor's party are carried out all measures

Preparation of site plans

Preparation of environmental work plans

Self-Monitoring by the Contractor

Specifying Construction activities

Based on the construction plan/schedule prepared, it is important to mention what the various phases of work are for each site, as different phases includes different activities and thus different environmental management requirements (ex. Site surveying, vegetation clearance, soil stripping and earth movement, excavation, coffer damming, electric elephant fencing, concrete work, blasting, painting, spraying, storing and using chemicals and hazardous substances etc.)

Environmental Work plans

The completed CEMP shall provide the details of all the environmental management requirements for all stages of the construction process. If the work is undertaken as individual work teams, the environmental work plans need to be prepared separately targeting each work team for respective work activities (e.g. clearing, excavation, concrete work, back filling, painting, sand blasting, coffer damming etc).

Preparing Risk Assessment Matrix

Risk Assessment and Environmental management measures based on the construction activities.

Risk is assessed as the likelihood that the activity will have an effect on the environment as well as the consequence of the effect occurring. Hence, it is often described as "Risk = Likelihood x Consequence"

Sample for Risk Assessment matrix

Construction activity	Issues to consider	Likelihood that the site or sensitive receptors will be affected?	Consequence of the site or sensitive receptors being affected?	Risk Score: (Consequence X Likelihood) High: 15-25 Medium: 6-10 Low : 1-5	Environmental management measures
		Score ¹	Score ²	Score ³	
Soil stripping	Damage to vegetation beyond vegetation limits	3	5	15 (High)	Limits of clearing marked with highly visible means; Monitor area for fauna prior to clearing operation; avoid spreading invasive species through proper decomposing/disposal techniques of debris; manage waste identifying proper disposal plans; burning of vegetative parts prohibited within wildlife protected areas
	Erosion of exposed areas and sediment carried into adjacent streams	3	3	9 (Medium)	Erect silt traps/fences around the perimeter of the working area; sedimentation ponds
	Loss of top soil	3	2	6 (Medium)	Stockpiles to get protective covering

Likelihood	Definition	Score
Certain	Will occur during the activity at a frequency greater than every week of the preventive measures are not taken	5
Likely	Likely to occur more than once or twice during the activity, but less than weekly, if preventive measures are not taken	3
Unlikely	May occur once or twice during the activity if preventive measures are not taken	2
Rare	Unlikely to occur during the activity	1

Consequence	Definition	Score
Catastrophic	Unprecedented damage or impacts involving the environment or surrounding communities (i.e widespread effect on ecosystem, with deaths of fauna/flora)	5
Major	Major damage to the environment or to surrounding communities	3
Moderate	Limited adverse impacts on the environment or on surrounding communities (i.e. short term minor changes in the ecosystem)	2
Minor	No or minimal adverse environmental or social impacts (i.e little noticeable effect on ecosystem)	1

Likelihood	Consequence			
	Catastrophic	Major	Moderate	Minor
Certain	25	15	10	5
Likely	15	9	6	3
Unlikely	10	6	4	2
Minor	5	3	2	1

How to include site plans

completed risk matrix provides a detailed assessment of the environmental management requirements for a construction site. The identified environmental management requirements need to be included in a site plan. The site plans range from simple line drawings to marked-up engineering drawings, to detailed overlays on aerial photographs. A site plan must cover the extent of the construction activity and should contain;

- Indication of North, and scale;
- Existing and planned supporting infrastructure (e.g., access roads, water ways, electricity supply etc.);
- Location of planned work;
- Drainage system;
- Location of sensitive receptors (e.g. animal crossings etc.)

The environmental management measures are then overlaid onto the site plan. This can be done by hand or by using computer graphics / symbols depending on what is available. ADB will not consider a CEMP to be complete unless a site plan accompanies the risk assessment matrix.



Sample Content of CEMP

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- 1.0 Introduction
 - 1.1 Overview to CEMP
 - 1.2 Scope of construction package
 - 1.3 Project duration
 - 1.4 Definition of project boundaries
 - 2.0 Contractor's Organization in environmental management
 - 2.1 Environmental Policy
 - 2.2 Environment management system
 - 2.3 Applicable key environmental legislations and governing documents
 - 3.0 Risk Assessment
 - 3.1 Environmentally sensitive areas
 - 3.2 Construction activities
 - 3.3 Environmental Issues and impacts
 - 3.4 Environmental management strategies and mitigation
 - 3.5 Risk Assessment Matrix including site plans
 - 3.6 Site restoration plans
 - 3.7 Required approvals for each activity (provide in a table including project activity, timing, approving agency, type of licence/approval etc.)
 - 4.0 CEMP Implementation, Monitoring, evaluation and reporting
 - 4.1 Construction plan
 - 4.2 Environmental responsibilities and Work plan
 - 4.3 Reporting and documentation
 - 5.0 Management Review
 - 5.1 CEMP review/updates
 - 5.2 Stakeholder and communication management
 - 5.2.1 Internal communication
 - 5.2.2 External Communication
 - 5.2.3 Complaints management
 - 5.2.4 Grievance Redress mechanism
 - 6.0 Annexes

Reports expected from the contractor to monitor that CEMP is properly implemented;

- 1. Environmental Method Statement (EMS)
- 2. Monthly Environmental Progress Report
- 3. Duly updated Environmental Issue Log and Grievance Log



Mahaweli Water Security Investment Program (MWSIP)
Ministry of Mahaweli Development & Environment

Considerations for public health and social measures in the workplace in the context of COVID-19

Annex to Considerations in adjusting public health and social measures in the context of COVID-19

10 May 2020



Background

In response to COVID-19, countries across the globe have implemented a range of public health and social measures, including movement restrictions, partial closure or closure of schools and businesses, quarantine in specific geographic areas and international travel restrictions. As the local epidemiology of the disease changes, countries will adjust (i.e. loosen or reinstate) these measures accordingly. As transmission intensity declines, some countries will begin to gradually re-open workplaces to maintain economic activity. This requires establishing protective measures, including directives and capacity to promote and enable standard COVID-19 prevention in terms of physical distancing, hand washing, respiratory etiquette and, potentially, thermal monitoring, as well as monitoring compliance with these measures.¹

On 16 April 2020, WHO published interim guidance that provides advice on adjusting PHSM,ⁱ while managing the risk of resurgence of cases. A series of annexes was developed to help guide countries through adjusting various public health measures in different contexts. This annex is for those involved in developing policies and standard operating procedures to prevent the transmission of COVID-19 in the workplace, including employers, workers and their representatives, labour unions and business associations, local public health and labour authorities, and occupational safety and health practitioners. This document offers general guidance for non-healthcare workplaces and workers in those settings.ⁱⁱ Additional protective measures may be necessary for specialized workplaces. Specific recommendations for protection of the health and safety of some frontline public workers are also included in the existing WHO guidance for the accommodation sector,² detention centers,³ schools,⁴ food businesses,⁵ aviation sector,⁶ water, sanitation, and waste management,⁷ camps,⁸ and construction.⁹

Workplace risk assessment

COVID-19 is transmitted primarily through respiratory droplets or contact with contaminated surfaces.¹⁰ Work-related exposure can occur anytime at the workplace, during work-related travel to an area with local community transmission, as well as on the way to and from the workplace.¹¹

The risk of work-related exposure to COVID-19 depends on the probability of coming into close (less than 1 metre) or frequent contact with people who may be infected with COVID-19 and through contact with contaminated surfaces and objects. The following risk levels may be useful in carrying out a workplace risk assessment for exposure to COVID-19 and planning for preventive measures in non-healthcare workplaces. In these risk categories, persons referred to as 'known to be or suspected of being infected with COVID-19' generally refers to persons who have already had a positive test or diagnosis.ⁱⁱⁱ Although such persons should be cared for in isolation, some occupations may still have a higher risk of exposure (e.g. home care workers, personal service providers where necessary, pharmacy front-line staff).

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. Workers in this category have minimal occupational contact with the public and other co-workers.

Medium exposure risk – jobs or work tasks with close, 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. In areas where COVID-19 cases continue to be reported, this risk level may be applicable to workers who have work-related frequent and close contact with the general public, visitors, or customers in high-population-density work environments (e.g. food markets, bus stations, public transport, and other work activities where physical distancing of at least 1 metre may be difficult to observe), or work tasks that require close and frequent contact between co-workers. In areas without community transmission of COVID-19, this scenario may include frequent contact with persons returning from areas with community transmission.

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. Examples of such

ⁱ [Considerations in adjusting public health and social measures in the context of COVID-19 \(Interim Guidance\) \(WHO 2020\)](#).

ⁱⁱⁱ For the purposes of this guidance the term "workplace" covers all places where workers need to be or to go by reason of their work.

ⁱⁱⁱ While the general public may include pre-symptomatic or asymptomatic persons who may be infected but have not (yet) developed obvious signs or symptoms. In this case, the likelihood of exposure of a worker will very much depend on the local COVID-19 situation. Physical distancing measures in the workplace therefore protect workers from direct contact any person who may or may not have COVID-19, whether they are aware of it or not.

exposure scenarios outside of health facilities include the transportation of persons known or suspected to have COVID-19 in enclosed vehicles without separation between the driver and the passenger, providing domestic services or home care for people with COVID-19, and contact with dead bodies of persons who were known or suspected of having COVID-19 at the time of their death.

In the same work setting there may be jobs with different levels of risk, and different jobs or work tasks may have similar levels of exposure. Therefore, the risk assessment should be carried out for each specific work setting and each job or group of jobs. For each risk assessment, it is prudent to consider the environment, the task, the threat, if any (e.g. for frontline staff), and resources available, such as personal protective equipment.

Some workers may be at higher risk of developing severe COVID-19 illness because of age or pre-existing medical conditions; this should be considered in the risk assessment for individuals. Essential public services, such as security and police, food retail, accommodation, public transport, deliveries, water and sanitation, and frontline workers may be at an increased risk of exposure to occupational hazards for health and safety.

Employers and managers, in consultation with workers, should carry out and regularly update the risk assessment for work-related exposure to COVID-19, preferably with support of occupational health services.

Preventive measures

Decisions on closing or re-opening of workplaces and suspension or downscaling of work activities should be made in light of the risk assessment, the capacity to implement preventive measures, and recommendations of national authorities for adjusting public health and social measures in the context of COVID-19.

Measures for all workplaces

Universal measures for preventing transmission of COVID-19 that apply to all workplaces and all people at the workplace, such as employers, managers, workers, contractors, customers and visitors, include the following:

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.¹²

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.¹³
- 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.¹⁴ 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

- Introduce measures to keep a distance of at least 1 metre 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),^{15,iv} physical spacing at least 1 metre 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

^{iv} If a person observes the WHO recommended at least 1-meter physical distance from others, this converts to approximately 10 square meter area around them.

- 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, using soap or a neutral detergent, water, and mechanical action (brushing, scrubbing) removes dirt, debris, and other materials from surfaces. After the cleaning process is completed, disinfection is used to inactivate (i.e. kill) pathogens and other microorganisms on surfaces.
- Selection of disinfectants^v should align with the local authorities' requirements for market approval, including any regulations applicable to specific sectors.
- High-touch surfaces should be identified for priority disinfection (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.
- In indoor workplaces, routine application of disinfectants to environmental surfaces via spraying or fogging is generally not recommended because it is ineffective at removing contaminants outside of direct spray zones and can cause eye, respiratory, and skin irritation and other toxic effects.
- In outdoor workplaces, there is currently insufficient evidence to support recommendations for large-scale spraying or fumigation.
- Spraying of people with disinfectants (such as in a tunnel, cabinet, or chamber) is not recommended under any circumstances.¹⁶

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.¹⁷
- 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.¹⁸

Management of people with COVID-19 or their contacts

- Workers who are unwell or who develop symptoms consistent with COVID-19 should be urged to stay at home, self-isolate, and contact a medical professional or the local COVID-19 information line for advice on testing and referral.¹⁹
- Where local community transmission is high, and work continues, allow for a telemedicine consultation where available, or consider waiving the requirement for a medical note for workers who are sick so that they may stay home.
- All workers should be urged to self-monitor their health, possibly with the use of questionnaires, and take their body temperature regularly.
- Thermal screening at the workplace should 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 should be prepared to manage a person who becomes sick at the workplace and is suspected of having COVID-19, including placing the person in an isolation room, limiting the number of people in contact, using personal protective equipment, and performing follow-up cleaning and disinfection.
- It is important to contact the local health authorities and to keep attendance and meeting records in order to facilitate or undertake contact-tracing.

^v For example, sodium hypochlorite (bleach) may be used for disinfection of surfaces in workplaces at concentration 0.1% (1,000 ppm) and alcohol with at least 70% concentration for surfaces which can be damaged by sodium hypochlorite.

- 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.²⁰

Specific measures for workplaces and jobs at medium risk

In addition to the above measures, for workplaces and jobs assessed to be at medium risk, the following measures should be put in place:

- 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 between workers, clients or customers, contractors, and visitors; such as staggered activities, minimizing face-to-face and skin-to-skin contacts, placing workers to work side-by-side or facing away from each other rather than face-to-face, assign staff to the same shift teams to limit social interaction, installing plexiglass barriers at all points of regular interaction and cleaning them regularly;
- Enhanced hand hygiene – regular hand washing with soap and water or use of alcohol-based hand rub, including before entering and after leaving enclosed machinery, vehicles, confined spaces, and before putting on and after taking off personal protective equipment;
- Provide personal protective equipment and training on its proper use – e.g. masks, disposable gowns, disposable gloves or heavy-duty gloves that can be disinfected. Provide face or eye protection (medical mask, face shields, or goggles) during cleaning procedures that generate splashes (e.g. washing surfaces).
- Increased ventilation rate, through natural aeration or artificial ventilation, preferably without re-circulation of the air.

Specific measures for workplaces and jobs at high risk

In addition to the measures above, for high-risk work activities and jobs, the following measures should be implemented:

- 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

Employers, workers, and their organizations should collaborate with health authorities in the prevention and control of COVID-19. The employers, in consultation with workers and their representatives, should take preventive and protective measures, such as engineering and administrative controls and provision of personal protective equipment and clothing for occupational safety and health and infection prevention and control. Such measures at the workplace must not involve any expenditure on the part of workers.

Workers shall follow established occupational safety and health and infection prevention and control procedures, avoid exposing others to health and safety risks, participate in related training provided by the employer and report immediately to their supervisor any situation which they have reasonable justification to believe presents an imminent and serious danger to their life or health.²¹

Co-operation between management and workers and their representatives must be an essential element of workplace-related prevention measures (such as through workers' safety delegates, safety and health committees, and collaboration with providing information and training) and respecting the right and duties of workers and employers in occupational safety and health.²²

COVID-19 and other diseases, if contracted through occupational exposure, could be considered as occupational diseases.²³

Plan of action

Workplaces should develop action plans for prevention and mitigation of COVID-19 as part of the business continuity plan and according to the results of the risks assessment and the epidemiological situation.²⁴ The plan should also include measures for protecting health, safety, and security in re-opening, closing, and modifying workplaces and work arrangements. Re-opening of workplaces should be carefully planned in advance and all possible risks for health and safety should be properly assessed and controlled.

The action plan and preventive measures put in place should be monitored and updated in case of changes in local epidemiological trends, new cases of COVID-19 at the workplace, or lack of compliance by workers, visitors, and clients or customers.

The large-scale public health and social measures introduced by countries in response to COVID-19 may also amplify some other risks for health, safety, and wellbeing at work due to alternative work arrangements, job insecurity, sudden loss of income, social isolation, and fear of contagion. Actions on prevention and mitigation of COVID-19 should be implemented together with actions for addressing other occupational safety and health risks such as ergonomic problems, heavy workloads and long working hours, remote working, psychosocial risks, poisonings, and others.²⁵ Occupational health services should strengthen their capacity to carry out risk assessment, infection prevention and control, and medical surveillance and organize mental health and psychosocial support in the context of COVID-19.

In developing and implementing action plans for prevention and mitigation of COVID-19 workers and their representatives should be properly consulted and all workers should be informed about the measures introduced, using specific risk communication and community engagement approaches.

Local authorities and local public health authorities can provide up to date information and facts, support community engagement activities, and offer specific recommendations on the prevention of COVID-19 among other groups of workers, such as domestic workers, workers in the informal economy, digital labour platforms, or others.

There must be no discrimination in the access of workers to protective measures for prevention of COVID-19. Refugee and migrant workers should have equal access to personal protective equipment as well as to COVID-19 prevention, treatment and care, referral, rehabilitation, social protection, and occupational health services, including mental health and psychosocial support.²⁶ Special efforts should be taken to prevent social stigma of workers suspected of being infected, infected with, or recovered from COVID-19.²⁷

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Acknowledgments

This document was developed in consultation with ILO's LabAdmin/OSH Branch.

WHO continues to monitor the situation closely for any changes that may affect this interim guidance. Should any factors change, WHO will issue an update. Otherwise, this interim guidance document will expire 2 years after the date of publication.

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Annex 3: Sample Format for Tri party Agreement

වයඹ පළාත් ඇළ ව්‍යාපෘතියේ ICB 02 පැකේජයේ ඉදිකිරීම් කටයුතු සඳහා භාවිතා කිරීමට ඉඩම් කාවකාලිකව, කුලී පදනම මත ලබා ගැනීමේ බදු ගිවිසුමයි.

මහවැලි පල පුරක්ෂිතතා ආයෝජන වැඩසටහන යටතේ වන වයඹ පළාත් ඇළ ව්‍යාපෘතියේ ICB 02 පැකේජයේ භාවිතය සඳහා පහත උපලේඛනයේ සඳහන් ඉඩම් කොටස් කාවකාලික කුලී පදනම මත මෙහි පහත දීමනාකාර පක්ෂය යයි කියනු ලබන රංචාඩියාව, ගලේවෙල ලිපිනයේ පදිංචි අය ඒ.එම්.සෙසිනදින් පළමු පාර්ශවය වශයෙන් ද,

මෙහි බදු/ කුලී ගැනුම්කාර පක්ෂය ලෙස කියනු ලබන කුඹුකුලාව,පොල්පිතිගම යන ස්ථානයේ කාර්යාලය පවත්වාගෙන යනු ලබන වයඹ පළාත් ඇළ ව්‍යාපෘතියේ ව්‍යාපෘති අධ්‍යක්ෂකවරයා (ඉ.ඒ.ජී.එම්.ආර්.ඒ.පෙරේරා) මෙහි දෙවන පාර්ශවකරු වශයෙන් ද,

මෙම ගිවිසුමේ මැදිහත්කාර පාර්ශවය වශයෙන් කුලීල් ගොඩනැගිල්ල, පුවත්පිටිය, ගලේවෙල යන ස්ථානයේ කාර්යාලය පවත්වාගෙන යනු ලබන කොන්ත්‍රාත්කාර සමාගමේ (විශිෂ්ටා ස්වෙච්ඡා කන්ස්ට්‍රක්ෂන් ඉංජිනේරු කොන්සල්ටින්ට්ස් පුයිව්ව් ලිමිටඩ්) කළමනාකරු/ඉංජිනේරු ද බැදී ඇති කර ගන්නා ලබන 2020 මාර්තුදිනැති බදු/ කුලී ගිවිසුමයි.

පහත උප ලේඛනයේ සවිස්තරව දැක්වෙන දේපල වර්ෂ 2020 මාර්තු මස දින සිට වර්ෂ 2021 ක් වූ අගෝස්තු වෙනි දින දක්වා මාස 05ක කාලයකට මාසිකව කුලී මුදල ලෙස ශ්‍රී ලංකාවේ වලංගු මුදලින් රු.5,340.00 (පන්දහස් කුන්සිය හතළිහක් පමණි) කට කුලී මුදල නියම කර ඉහත කී බදු දීමනාකාර පක්ෂය විසින් මෙහි පහත සඳහන් කරන ගිවිසිලිවලට යටත්ව කුලී පදනමට දෙන ලදින් එකී ගැනුම්කාර පක්ෂය ද එකඟව අත්සන් කරන ලදී.

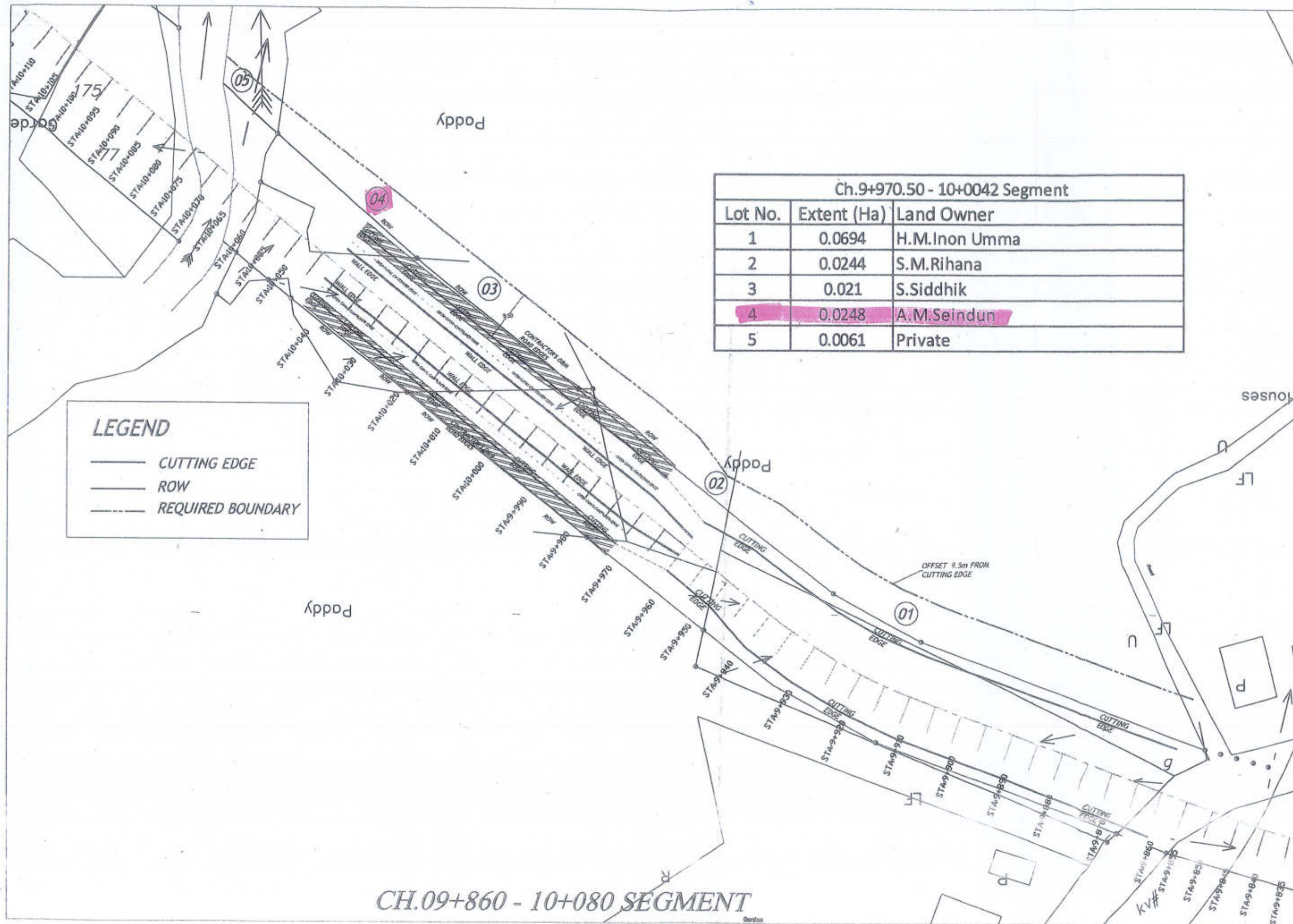
යොමුව: මිනුම් දෙපාර්තමේන්තුවේ අගපි 337 අතිරේක අංක 9 පත්‍ර අංක 9 කැබලි අංක 190 කොටස සඳහා

උප ලේඛනය

1. ව්‍යාපෘති/ ප්‍රමාණය - (පෞද්ගලික/ භෞතික/ වෙනත් (සඳහන් කරන්න)) ඉඩම් **භුක්තියාමාර් 0.0248 (පර්චස් 9.80)**
2. ප්‍රමාණය - පුද්ගලික/ රක්ෂිත ද, නිදහස් කරන ඉඩම් දිගින් අඩි පළලින් අඩි -
3. ගිවිසුම්ගත පුද්ගලයා හිමිකම් කියන ඔහුට අයත් යාබද ඉඩමේ ප්‍රමාණය - පර්චස් -
4. වගා කළ ප්‍රමාණය දිගින් මීටර - පළලින් මීටර -
5. ගස් (ගස් වර්ග හා ප්‍රමාණය විස්තර කරන්න) -
6. බලපෑමට ලක් නොවන ගොඩනැගිලි පිළිබඳ විස්තර :- (වර්ගය, දිග පළල, ගොඩනගන ලද අවුරුද්ද).....
7. නිදහස් කිරීමට අපේක්ෂිත ඉඩමේ මායිම

a. උතුරට	කුඹුර
b. නැගෙනහිරට	කැබලි අංක 186
c. දකුණට	කැබලි අංක 186
d. බටහිරට	බේලිගමුව ඇළ
8. ඉඩම පිහිටි ස්ථානයේ ලිපිනය

a. දිස්ත්‍රික්කය	මාතලේ
b. නගරය	ගලේවෙල
c. ගම	රංචාඩියාව
d. මැනුම අනුව පිහිටීම	CH.9+970.50-10+0042 Segment කැ.අං.- 4



Annex 4: Letter to CSCEC including Environmental screening findings and reasons for rejecting the site as a disposal area

PMDSC NWPCP ICB - 2 - RE's Office
#A1 & A2 "Jayanthi Kumarasiri"
Kalahakele, Galewela

MAHAWELI WATER SECURITY INVESTMENT PROGRAM**Our ref.: PMDSC-NWP-Site/ ICB2/CSCEC/780****Date: 07.01.2020**

Mr. Tang Aimin
Project Manager
China State Construction Engineering Corporation Ltd
Dambulla Road, 240 A, Puwakpitiya,
Galewela, Sri Lanka

Subject : Submission of the Request of Land Owner
Your Ref : CSCEC-ICB2-PMDSC-950-2020 dated on 06th January 2020
Our Ref : N/A

Dear Sir,

This has reference with our letter ref. PMDSC-NWP-Site/ ICB2/CSCEC/771 dated on 01st January 2020 Submission of Environmental Non-Compliance Report (ICB2-PMDSC-NCR-Env-008). Your letter of producing land-owner's request for site clearing (CSCEC-ICB2-PMDSC-950 dated on 06th January 2020) and verbal instructions given by EMS-PMDSC to your relevant officers on 04th, 05th and 06th January 2020.

Please note that the identified land is not suitable for a stockpile as per the rapid environmental screening carried out by the Environmental Monitoring Specialist (EMS) of PMDSC given in the **Annex 1** of this letter.

As per the explanation and ecological screening carried out by EMS - PMDSC given in **Annex 1**, clearing of such forest habitat to use as a stockpile area trigger ADB SPS (2009) as well as GOSL National Environment Act (NEA). Hence, approval from Central Environmental Authority (CEA) including other relevant stakeholder agencies depending on the landownership, is required for site clearing, and you are not allowed to clear it for project purpose as you wish since this is an ADB funded project.

Any violation of ADB SPS (2009) and GOSL NEA would negatively affect the MWSIP Environmental Safeguard Compliance, and your strict attention on such matters, and obtaining Engineer's approval before hand should be a priority concern during the project period.

Please note that liaison with those safeguard policies is a Contractual Requirement and Obligation of CSCEC.

Annex 1:

Rapid Environmental Screening of the land by EMS and reasons for not suitability to use as a Stockpile

The proposed land is covered by naturally regenerated thick jungle and comprised many endemic and nationally red listed flora and fauna species. *Derris parviflora* (Kala Wel), *Eugenia willdenowii* (No Sinhala name), *Vernonia zeylanica* (Pulula), *Argyreia populifolia* (Giritilla) are observed endemic flora species and *Salacia reticulata* (Kotala Himbutu), *Margaritaria indicus* (Karawu), *Chloroxylon swietenia* (Burutha), *Tinospora cordifolia* (Rasakinda) are observed nationally red listed flora species during the rapid ecological screening. *Salacia reticulata* (Kotala Himbutu) is nationally endangered (EN) and others are nationally vulnerable (VU) according to national red list 2012. Further, few nationally near threatened flora species, *Vitex altissima* (Milla) and *Madhuca longifolia* (Mee) also observed during the rapid ecological screening.

Of the above listed species, some are commercially valuable timber species (Burutha, Milla, Karawu) and some are commercially valuable medicinal plant species (Kotala Himbutu, Rasakinda) and protected by the Fauna and Flora Protection Ordinance (FFPO).

Addition to above endemic, nationally red listed and near threatened flora species, many native flora species, *Adenanthera pavonina* (Madatiya), *Pterospermum suberifolium* (Welang), *Ziziphus oenoplia* (Eraminiya), *Grewia orientalis* (Wel Keliya), *Clausena indica* (Migon Karapincha), *Murraya koenigii* (Karapincha), *Toddalia asiatica* (Kudu Miris), *Glycosmis pentaphylla* (Dodan Pana), *Glycosmis angustifolia* (Bol Pana), *Glycosmis mauritiana* (Bol Pana), *Casearia zeylanica* (Wal Waraka), *Neolitsea cassia* (Dawul Kurundu), *Litsea glutinosa* (Bomee), *Ventilago madraspatana* (Yakada Wel), *Scutia myrtina* (No Sinhala name), *Cyclea peltata* (Kehi Pittan), *Cissampelos pareira* (Diya Mitta), *Grewia damine* (Daminiya), *Mallotus philippensis* (Hamparilla), *Mallotus repandus* (No Sinhala name), *Reissantia indica* (No Sinhala name), *Ixora pavetta* (Maharatambala), *Scleria lithosperma* (No Sinhala name), *Carissa spinarum* (Heen Karamba), *Ichnocarpus frutescens* (Gerandi Dul), *Morinda coreia* (Ahu), *Argyreia osyrensis* (No Sinhala name), *Tarenna asiatica* (Tarana), *Mussaenda frondosa* (Mussenda), *Lannea coromandelica* (Hik), *Jasminum angustifolium* (Wal Pichcha), *Dioscorea pentaphylla* (Katuwala Ala), *Schleichera oleosa* (Koon), *Filicium decipiens* (Pihimbiya), *Streblus taxoides* (Gon Gotu), *Bridelia retusa* (Ketakeela), *Mallotus rhamnifolius* (Molabe), *Polyalthia korinti* (Ulkenda), *Premna tomentosa* (Boo Seru), *Haldina cordifolia* (Kolon), *Streblus asper* (Geta Netul), *Wattakaka volubilis* (Anguna Kola) are observed during the rapid ecological screening. Most of the above species are commercially valuable medicinal plant species or commercially valuable timber species.

The land also harbours many fauna species. Forest birds including migratory forest birds, mammalian species (Pangolin, Grey mongoose, Black-tipped or Ruddy mongoose, Ring-tailed civet, Wild boar, Porcupine, Malabar bandicoot, Palm squirrel, Giant squirrel, Black-naped hare, Sri Lanka toque monkey, Jackal, Spotted deer), Reptiles (Indian star tortoise, Green garden lizard, Common garden lizard, Common skink, Land monitor, Indian python, Green vine snake, Brown vine snake, Rat snake, Indian cobra, Russell's viper, The Merrem's hump nose viper), amphibians, butterflies, land snails, etc. can be observed within the thick jungle of the proposed land.

Therefore, this land can be considered as forest land, hence CEA approval needed for land clearing purpose. As PMDSC, we cannot give permission to clear the land. And also, PMDSC Environment Monitoring Specialist

(EMS), cannot recommend this land for stockpile purpose as it has ecologically valuable vegetation cover. Clearing of this ecologically valuable vegetation cover will create many environmental issues. Other hand we undertake many tree planting and forest enrichment program under this project to compensate ecological damage due to this project and if we recommend this land for stockpile purpose it will create conflict with our tree planting program.

Further, due to above reasons clearing such forest habitat to use as a stockpile area trigger ADB SPS (2009) as well as GOSL National Environment Act.

Forwarded for your immediate action please.

Yours sincerely,
for the Engineer,



Ravi Kodikara Arachchi
Resident Engineer

Encl:

Copies: Mr. Eng. G. M. R. A. Perera (Project Director NWPC Project)
Mr. Lutz Romer (Chief Resident Engineer PMDSC)

Annex 5:Letter from PD-PIU on NWPCP-ICB-2

PMDSC NWPCP ICB - 2 - RE's Office
#A1 & A2 "Jayanthi Kumarasiri"
Kalahakele, Galewela

MAHAWELI WATER SECURITY INVESTMENT PROGRAM**Our ref.: PMDSC-NWP-Site/ ICB2/CSCEC/1300****Date: 29.06.2020**

Mr. Tang Aimin
Project Manager
China State Construction Engineering Corporation Ltd
Dambulla Road, 240 A, Puwakpitiya,
Galewela, Sri Lanka

**CONSTRUCTION OF MAIN CANAL FROM NEBADAGAHAWATTA TO MAHAKITHULA RESERVOIR
TUNNEL (FROM 5+250 TO 22+300 KM) – NWPCP-ICB 2****CONTRACT NO: MMDE/MWSIP/ADB/NWPCP/ICB-2/3267-3268-SRI/ICB/2017/003****Subject : Violation of Central Environmental Authority (CEA) Environmental Approval Conditions
and Department of Wildlife Conservation (DWC) Approval Conditions****Your Ref: N/A****Our Ref : (1) NWPCP/PIU/PD/ENV/ICB2/PMDSC/20/07 dated 25th June 2020**

Dear Sir,

This has reference with PD-PIU's letter having ref. no. (1) on above mentioned subject.

A complaint has been made by the Department of Wildlife Conservation (DWC) regarding the night work carried out inside the Kahalla – Pallake Sanctuary (Ch. 19+000 to Ch. 19+650) on 21st June 2020 by CSCEC. Night work inside the sanctuary area is completely a violation under the CEA Environmental Approval Conditions no. 3.15 and the DWC approval condition no. 12.

This may cause to trigger the human – elephant conflict in this area due to disturbances of animal behaviours both day and night. If this continues, social objections and human unrest against the constructions work may develop in future. It will be caused to terminate the project under ADB, CEA and DWC rules and regulations.

Therefore, we hereby request you to submit the Investigation Report on this incident please.

Yours sincerely,



Ravi Kodikara Arachchi
Resident Engineer

Encl: NWPCP/PIU/PD/ENV/ICB2/PMDSC/20/07 dated 25th June 2020**Cc: Mr. Eng. G. M. R. A. Perera (Project Director NWPC Project)
Mr. Lutz Roemer (Chief Resident Engineer PMDSC)**



මහවැලි ජල සුරක්ෂිතතා ආයෝජන වැඩසටහන
Mahaweli Water Security Investment Programme

MWSIP

ව්‍යාපෘති අධ්‍යක්ෂ කාර්යාලය - ව්‍යාපෘති ක්‍රියාත්මක කිරීමේ ඒකකය

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Project Director's Office - Project Implementation Unit (PIU)

North Western Province Canal (NWPC) Project

මඩගල්ල පාර, කුඹුකුලාව, පොල්පිහිගම 60620

Madagalla Road, Kumbukulawa, Polpithigama 60620, SRI LANKA

මගේ අංකය
My Ref

NWPC/PIU/PD/ENV/ICB2/PMDSC/20/07

ඔබේ අංකය
Your Ref

දිනය
Date

2020.06.25

Resident Engineer – NWPC/ICB2
PMDSC.

Sub: Violation of Central Environmental Authority (CEA) Environmental approval conditions, Department of Wildlife Conservation (DWC) approval conditions.

A complains has been made by the Department of Wildlife conservation (DWC) regarding the night work carried out inside the Kahalla-Pallake Sanctuary (Ch 19+000-19+650) on 21.06.2020 by ICB 02 contractor. Night work inside the sanctuary area is completely a violation under the CEA Environmental approval conditions no 3.15 and the (DWC) approval condition no 12. (Copy of the approvals attached)

2. As per the previous experience of the program, this kind of violations may leads to terminate the project under ADB, CEA and DWC rules and regulations and this may cause to trigger the human – elephant conflict in this area due to disturbances of animal behaviors both day and night. If this continues, social objections and human unrest against the construction work may develop in future.

3. Therefore, submit an investigation report on this incident please.

Eng.G.M.R.A.Perera

Project Director
NWP Canal Project

Eng.G.M.R.A.Perera

Project Director - NWP Canal Project
Mahaweli Water Security Investment Programme
Madagalla Road, Kumbukulawa
Polpithigama

MWSIP - PMDSC	
NWPC/ICB-2 SITE OFFICE - GALEWELA.	
Registered Incoming by:	SP
Seen:	CRE RE
Date:	2 6 JUN 2020
Action by:	Janeen / S. R. S. R.
Copies to:	
To Files:	

Cc: 1. Programme Director, MWSIP

- For your information please

2. PM, CSCEC

- For follow up actions

☎ ව්‍යාපෘති අධ්‍යක්ෂ/ Project Director: +94 (37) 22 73 260

☎ තාක්ෂණික අංශය/ Technical Cell: +94 (37) 39 75 691

☎ සමාජ ආරක්ෂණ අංශය/ Social Safeguards Cell: +94 (37) 39 70 783

☎ කළමනාකරණ අංශය/ Management Cell: +94 (37) 39 72 264

☎ ෆැක්ස්/ Facsimile: +94(37) 22 73 260

@

☎ ඊ-මේල්/ E-mail: nwpc.mwsip@gmail.com

🌐

http://www.facebook.com/nwpc/

ආපේ යොමුව
உமது தொப்பு
Your Ref.

අපේ යොමුව
எமது தொப்பு
Our Ref.

දිනය
திகதி
Date

මධ්‍යම පරිසර අධිකාරිය

மத்திய சுற்றாடல் அதிகாரசபை

Central Environmental Authority

"පරිසර පියස" 104, ඩෙන්සිල් කොබ්බෑකඩුව මාවත, බත්තරමුල්ල, ශ්‍රී ලංකාව.
"பரிசுர பியச" 104, டென்சில் கொப்பேகடுவ மாவத்தை, பத்தரமுல்லை, இலங்கை.
"Parisara Piyasa", 104, Denzil Kobbekaduwa Mawatha, Battaramulla, Sri Lanka.
Web : www.cea.lk

Director General
Irrigation Department
Bauddhaloka Mawatha
Colombo 07.

PROPOSED NORTH WESTERN PROVINCE (NWP) CANAL PROJECT

This is to inform you that the Central Environmental Authority (CEA), after study of the Environmental Impact Assessment Report (EIAR) of the proposed NWP Canal Project dated June 2015, the comments received from the public and your responses to such comments dated January 2016 and additional information submitted on 29.01.2016 and 09.02.2016 as clarifications for the queries raised by the Technical Evaluation Committee appointed by the CEA, has decided, in terms of regulation 13 of the National Environmental (Procedure for approval of projects) Regulations, No. 1 of 1993 to grant approval for the implementation of the above project subject to the following terms and conditions.

1. GENERAL CONDITIONS

- 1.1 This environmental approval is valid for implementation of the Proposed NWP Canal Project as described in the EIAR dated June 2015 submitted by the Irrigation Department (ID).
- 1.2 This approval is granted on the basis that all information provided by the ID in the EIAR dated June 2015 and the addendum dated January 2016 are true and accurate.
- 1.3 This approval is valid for a period of 3 years from the date of issue of this letter, unless upon application in writing to this Authority within thirty days prior to the expiry date, the validity period is extended.
- 1.4 The ID where necessary should obtain fresh approvals in respect of any alterations that would be made to the initial project proposal submitted to CEA as per the EIAR dated June 2015.

Chairman	Tel. : 2872361, 2872348 Fax : 2872347	Director General	Tel. : 2872359 Fax : 2872608	Gen. Office	Tel. : 2872278, 2873447, 2873448 7877277-280	Complain Unit : 2872603, 2883999
Deputy Director Generals	HRD, Admin & Finance Division Tel. : 2865296 Fax : 2877515	Envt. Pollution Control Division	Tel. : 2873433 Fax : 2872605	Envt. Mgt & Assess. Division	Tel. : 2872388 Fax : 2872296	Envt. Edu. & Awareness Division Tel. : 2872297 Fax : 2872609
Directors	2872607 (Admin), 7877290 (Finance) Tel. : 2872301 (HRD), 7877288 (Planning) Fax : 2872601 (Admin), 2863984 (Finance)	2873432 (EPC) 2872606 (Lab) 2882335 (WM)	2872346 (NRM), 2876643 (EIA) 2867263 (R&D) Fax : 2872296	2867266 (EEA) Fax : 2872609 Media Unit : 2873449	2872604 (Legal) (Western Province) Tel. : 2862831 Fax : 2865293	

- 3.11 Other than the irrigation canals and reservoirs, no other buildings such as offices, quarters etc. should be constructed within the sanctuary. Temporary labour camps should not be constructed within remaining forest areas.
- 3.12 No roads or any other permanent structures should be constructed within the Sanctuary without the prior approval of DWC.
- 3.13 Necessary infrastructure should be established in identified locations to mitigate the human wildlife conflict and to enhance nature based tourism as recommended by the DWC.
- 3.14 Existing electric fence should be relocated to increase the wildlife habitats in the sanctuary.
- ⊗ 3.15 Precautions should be taken to reduce construction impacts on existing natural systems such as forest areas, streams and tanks and wild animals within these habitats.
- 3.16 Minimum number of trees should be cut during construction. Trees should be preserved as far as possible within the reservoir filled area. Trees may be removed only in cases where it is absolutely essential. The ID should take required action to remove such trees in consultation with the DWC / FD.
- 3.17 Abandoned quarry sites and burrow pits should be rehabilitated and suitable replanting programmes implemented in these areas in consultation with the FD / DWC.
- 3.18 Low noise generating measures should be adopted in carrying out blasting activities within wildlife influenced areas. Necessary guidelines should be obtained from DWC in this regard.

4 LAND STABILITY AND SOIL EROSION ASPECTS

- 4.1 Excavation blasting operations and removal of existing rock / soil should be done in accordance with proper engineering designs. Height and angle of cutting slopes should be designed with proper geological and geotechnical details to avoid ground instability and slope failures.
- 4.2 Earth retaining structures should be applied wherever required to prevent initiation of local failure.
- 4.3 Adequate erosion management measures shall be exercised during construction in order to prevent siltation of surface water bodies at downstream areas, neighboring marsh / paddy lands during construction.



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வனசீவராசிகள் பாதுகாப்புத் திணைக்களம்
DEPARTMENT OF WILDLIFE CONSERVATION

ප්‍රධාන කාර්යාලය - අංක 811/අ, ජයන්තිපුර පාර, බත්තරමුල්ල
 பிரதான அலுவலகம், இல. 811/ஏ, ஜயந்திபுர வீதி, பத்தரமுல்லை
 Head Office - No. 811/A, Jayanthipura Road, Battaramulla



මගේ අංකය
எனது இல.
My No.

WL/6/1/1/270-I

ඔබේ අංකය
உமது இல.
Your No.

දිනය
திகதி
Date

2018.03. 23

Eng.K.R.Neil Bandara,
 Program Director (MWSIP)/ Additional Secretary (WRP),
 Ministry of Mahaweli Development & Environment,
 Colombo 10.



Dear Sir

Release of Kahalla-Pallekele Sanctuary Lands for Construction Works- NWPC-ICB1- and ICB2
Mahaweli Water Security Investment Program (MWSIP)

This refers to the letters numbered MMDE/MWSIP/PMU/ENV/NWPCP/Gen and dated 30th January 2018 regarding the above matter.

02. Proposed area falls inside the Kahalla Pallekele Sanctuary. After evaluating the EIA process, the approval is already given for North Western Canal Project. Hence, permission is hereby granted for construction activities subject to the following conditions.

1. All the conditions given by EIA report should be remains unchanged.
2. This land permission is given only for the construction activities. And this letter should not be treated as a permission for the land release of the Kahalla Pallekela Sanctuary.
3. Activities recommended by the EIA and Wildlife Management Plan should be completed before completion of the project.
4. All monitoring and environmental impact mitigatory activities should be coordinated by the PP
5. This approval is valid for a period of 03 years from the date of this letter. The project should be commenced before the expiry of the validity period.
6. Approvals from other relevant agencies should be obtained before commencing the project.
7. After canal construction is completed, land area should be properly rehabilitated and native trees should be planted under the supervision of the DWC officer nominated by the Assistant Director (Kurunegala) and protected until self-survival stage.
8. Precautions should be taken not be spread/introduce any invasive species.
9. Department of Wildlife Conservation (DWC) is not responsible for any human or property damages caused by the wild animals within this project area and adjacent area.
10. Do not allow to collect any alive or dead specimens of Fauna & Flora and minerals from the Sanctuary.

Handwritten signature and date: 23.3.2018

දුරකථන
தொலைபேசி
Telephone

අධ්‍යක්ෂ ජනරාල් - 011 2888581
 අධ්‍යක්ෂ (පාලන) - 011 2888583
 අධ්‍යක්ෂ (මේනේජ්මේන්ට්) - 011 2888582
 අධ්‍යක්ෂ (මුද්‍රා) - 011 2888584

ප්‍රධාන කාර්යාලය / அலுவலகம் / Head Office: 011 2888585
 ෆැක්ස් / தொலைபேசி / Fax: 011 2883355
 ඊ-මේල් / மின்னஞ்சல் / E-mail: dg@dwco.gov.lk
 වෙබ් අඩවිය / வலைப்பிள்ளை / Website: www.dwc.gov.lk

11. Any kind disturbance/damages to the wildlife/wildlife habitats/migratory routes should be avoided and compensated by the Project Proponent (PP).

12. All the construction activities should be conducted within 6.00 a.m to 6.00 p.m.

13. All the project activities should be conducted under the supervision of DWC officers and DWC officers should have permission to enter, construction site & contractors camp sites at any time.

14. PP should get the proper measures to prevent the mosquito breeding places during construction and operation periods.

15. PP should ensure adhering these terms and conditions during project implementation. The PP shall have full control over a third party that may be involved in project implementation by entering into agreements which contain the conditions stipulated in this letter with such parties. DWC should have access to the contract documents pertaining to environmental aspects, entered into by the project proponents and any outside contractors.

16. Collection of flora and fauna or their parts from natural forest and carrying out of any other illegal activity which is harmful to natural forest, should be prevented by the PP.

17. All access roads should be properly managed by responsible officers appointed by the project under the supervision of DWC officers.

18. Awareness on the safeguarding the fauna and flora in the site should be carried out for workers.

20. Trees, scrubland or nearby forest should not be felled or cleared for the any reason.

21. Waste water arising from domestic activities and sewage should be directed into a waste water treatment system.

22. All residuals and solid waste generated by workers/residents should be strictly managed to avoid pollution of the project area.

23. Solid waste arising from the project activities should not be allowed to stagnate within the premises or dumped in neighboring lands and should not be disposed of into any water body and should not be burnt at any time inside the premises.

24. Solid waste should be discharged through an appropriate waste management programme.

25. Proper sanitary facilities and personnel protective equipments should be provided for the workers

26. All the structures should be created at the project site will be designed to blend well with this environment.

27. After completion of the project any worker/officer should be not be remain inside the Sanctuary.

28. In the event that PP fails to compensate or rehabilitate the damage caused by the proposed project to the environment within the stipulated project period, DWC has authority to cancel this project.

29. Wild Animals Migratory Paths and their habitat should not be disturbed by this project.

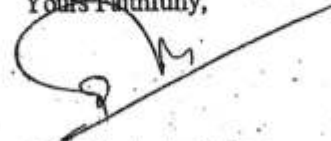
30. The PP shall comply with any requirement that would be stipulated from time to time by the DWC.

31. The DWC reserves the right to cancel/suspend/withdraw of this approval in the event that major environmental problems for wildlife, arise due to the operation of the project or in a situation where the surrounding environment has been altered or changed due to the natural factors or otherwise.

32. All the wildlife related activities should be conducted under the supervision of the Wildlife officers.

03. Please note that all the activities of the proposed project should be adhered with the provision of Fauna and Flora Protection Ordinance.

Yours Faithfully,



Manjula Amararatne
Director General (Cover up Duty)

Cc -
Assistant Director (Kurunegala) -
Ranger (Kahall Pallekele Sanctuary)

For you information & supervise the survey activities
-do-

Annex 6: Water Quality Rest Report for the Affected stream and Wells due to Batching Plant Waste disposal



中國建築股份有限公司 (17公里水渠項目)
CHINA STATE CONSTRUCTION ENGRG. CORP. LTD

Date: 24th February 2020

Our Ref: No. CSCEC - ICB2 - PMDSC- 1/21

Mr. Ravi Kodikara Arachchi
Resident Engineer
RE Office NWPCP ICB-2
#A1 & A2, Jayantha Kumarasiri
Kalahakele, Galewela.
Sri Lanka

**Construction of Main Canal from Nabadagahawatta to Mahakithula Reservoir Inlet
Tunnel (from 5+250km to 22+300km)– NWPCP – ICB - 2**
Contract No : MMDE/MWSIP/ADB/NWPCP/ICB-2/3267-3268-SRI/ICB/2017/003

**Sub: water sample testing of water wells and small canal near the batching plant-
Katupotha and submit the relevant reports**

Dear Sir,

An officer of Engineer's staff and ourselves jointly collected water samples of three wells and two water samples of small canal and submitted to the lab of National water supply and drainage board to check on 13th February 2020. As per National water supply and drainage board report the well's water are suitable for drinking and canal water is suitable for irrigation purpose.

Therefore, please find the attached reports for your information and necessary action.

Yours Faithfully,

Mr. LI Jianshuang
Executive Project Manager
Construction of Main Canal from Nabadagahawatta to Mahakithula Reservoir Inlet
Tunnel (from 5+250 km to 22+300 km)
China State Construction Engineering Corporation Ltd.

Encl- Five water sample reports, Location layout, details of samples

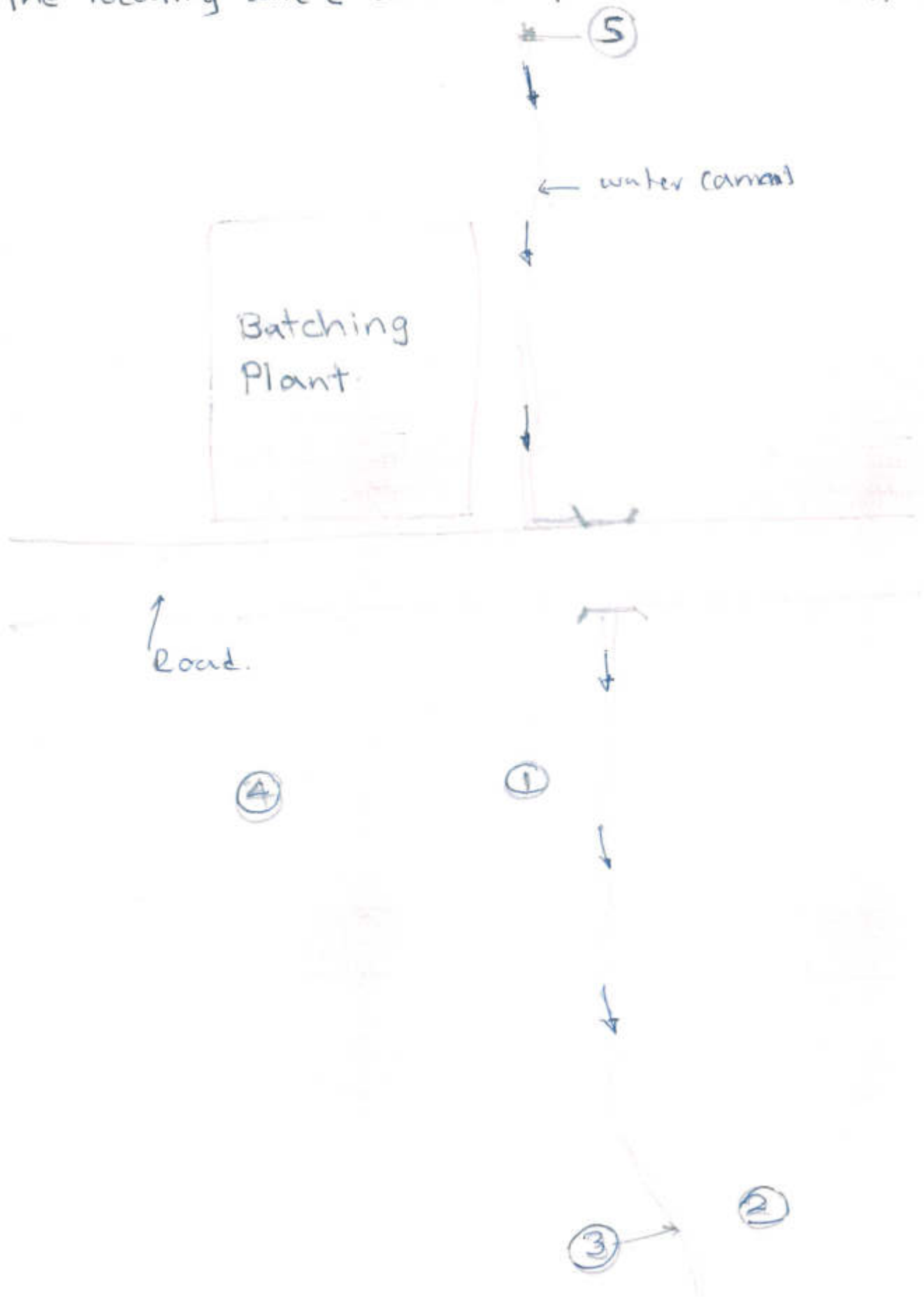
CC- Mr. Eng. G.M.R.A. Perera (Project Director - NWPC Project)
Mr. Lutz.Roemer (Chief Resident Engineer - PMDSC)



Five water samples were taken near the batching plant and handed over to NWSDB in Kurunegala on 13th February 2020

Sample No	Location
01	Water well of Mrs G.K.Gnanawathi, Nilagama, Bambaragaswewa, Galewela.
02	Water well of Mr Sarathchandra, Nilagama, Bambaragaswewa, Galewela.
03	The canal in front of No 02 Location
04	Water well of Mr H.A.Samarapala, Katupotha, Bambaragaswewa, Galewela.
05	The canal over the batching plant.

The locating where water sample has been taken.





REGIONAL LABORATORY
NATIONAL WATER SUPPLY & DRAINAGE BOARD
Wathimiya Road - Kurunegala



Tel: 037-2220839

Fax: 037-2231401

e-mail: reglabkuru.nwsdb@gmail.com

WATER QUALITY REPORT - Physical & Chemical

Date: 17.02.2020

1. Client/Organization /WSS : Project Manager , China State Construction Engineering Corporation (pvt) Ltd , Puwakpitiya ,Galewela
2. Laboratory Sample No. : 443/KU/PVT
3. Water Source : Sample No- 01
4. Location of Sample : Galewela
5. Date & Time of Collection : 13.02.2020
6. Date & Time of receipt in Lab : 13.02.2020
7. Sample collected by : Client
8. Report required by : Project Manager , China State Construction Engineering Corporation (pvt) Ltd , Puwakpitiya ,Galewela

Substance or characteristic	Unit	Requirement (Maximum) as SLS 614:2013	Results
PHYSICAL QUALITY			
Colour (Max)	(Hazen unit)	15	14
Turbidity (Max)	(NTU)	2	2.7
pH at 25°C ± 2°C		6.5-8.5	6.8
CHEMICAL QUALITY			
Chloride (as Cl ⁻)	(Mg/l)	250	46
Total Alkalinity (as CaCO ₃)	(Mg/l)	200	300
Total Ammonia (As NH ₃)	(Mg/l)	0.2	0.02
Nitrate (as NO ₃)	(Mg/l)	50	7.04
Nitrite (as NO ₂)	(Mg/l)	3.0	0.0132
Fluoride (as F)	(Mg/l)	1.0	0.68
Total Phosphates (as PO ₄ ⁻³)	(Mg/l)	2.0	0.64
Total Dissolved Solids (max)	(Mg/l)	500	381
Total Hardness (as CaCO ₃) (max)	(Mg/l)	250	210
Iron (as Fe)	(Mg/l)	0.3	0.08
Manganese (as Mn)	(Mg/l)	0.1	0.2
Sulphate (as SO ₄ ⁻²)	(Mg/l)	250	09

This report is issued for the information of the client. It shall not be published in total or in part without the written authority of the General Manager, National water supply & Drainage Board. This report is limited specifically to this specimen.

T. J. Jayatilaka

Senior Chemist

P. A. T. T. Jayatilaka,
Senior Chemist,
Regional Laboratory,
National Water Supply & Drainage Board,
Wathimiya Road, Kurunegala

DF
19/02/2020

Laboratory Assistant

"water - Every Drop is Precious"



NATIONAL WATER SUPPLY & DRAINAGE BOARD
Wathimiya Road - Kurunegala



Tel: 037-2220839

Fax: 037-2231401

e-mail: reglabkuru.nwsdb@gmail.com

WATER QUALITY REPORT - Physical & Chemical

Date: 17.02.2020

1. Client/Organization /WSS : Project Manager , China State Construction Engineering Corporation (pvt) Ltd , Puwakpitiya ,Galewela
2. Laboratory Sample No. : 444/KU/PVT
3. Water Source : Sample No- 02
4. Location of Sample : Galewela
5. Date & Time of Collection : 13.02.2020
6. Date & Time of receipt in Lab : 13.02.2020
7. Sample collected by : Client
8. Report required by : Project Manager , China State Construction Engineering Corporation (pvt) Ltd , Puwakpitiya ,Galewela

Substance or characteristic	Unit	Requirement (Maximum) as SLS 614:2013	Results
PHYSICAL QUALITY			
Colour (Max)	(Hazan unit)	15	04
Turbidity (Max)	(NTU)	2	1.0
pH at 25°C ± 2°C		6.5-8.5	7.1
CHEMICAL QUALITY			
Chloride (as Cl ⁻)	(Mg/l)	250	48
Total Alkalinity (as CaCO ₃)	(Mg/l)	200	320
Total Ammonia (As NH ₃)	(Mg/l)	0.2	0.04
Nitrate (as NO ₃)	(Mg/l)	50	7.04
Nitrite (as NO ₂)	(Mg/l)	3.0	0.0132
Fluoride (as F)	(Mg/l)	1.0	0.41
Total Phosphates (as PO ₄ ⁻³)	(Mg/l)	2.0	0.28
Total Dissolved Solids (max)	(Mg/l)	500	447
Total Hardness (as CaCO ₃) (max)	(Mg/l)	250	240
Iron (as Fe)	(Mg/l)	0.3	0.06
Manganese (as Mn)	(Mg/l)	0.1	0.1
Sulphate (as SO ₄ ⁻²)	(Mg/l)	250	16

This report is issued for the information of the client. It shall not be published in total or in part without the written authority of the General Manager, National water supply & Drainage Board. This report is limited specifically to this specimen.

TT Jayathilaka
Senior Chemist

PATTARAJA,
Senior Chemist,
Regional Laboratory,
National Water Supply & Drainage Board,
Wathimiya Road, Kurunegala

B. Jayathilaka
19/02/2020
Laboratory Assistant

"water - Every Drop is Precious"



NATIONAL WATER SUPPLY & DRAINAGE BOARD
Wathimiya Road - Kurunegala



Tel: 037-2220839

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WATER QUALITY REPORT - Physical & Chemical

Date: 17.02.2020

1. Client/Organization /WSS : Project Manager , China State Construction Engineering Corporation (pvt) Ltd , Puwakpitiya ,Galewela
2. Laboratory Sample No. : 445/KU/PVT
3. Water Source : Sample No- 03
4. Location of Sample : Galewela
5. Date & Time of Collection : 13.02.2020
6. Date & Time of receipt in Lab : 13.02.2020
7. Sample collected by : Client
8. Report required by : Project Manager , China State Construction Engineering Corporation (pvt) Ltd , Puwakpitiya ,Galewela

Substance or characteristic	Unit	Requirement (Maximum) as SLS 614:2013	Results
PHYSICAL QUALITY			
Colour (Max)	(Hazan unit)	15	20
Turbidity (Max)	(NTU)	2	10.2
pH at 25°C ± 2°C		6.5-8.5	7.7
CHEMICAL QUALITY			
Chloride (as Cl ⁻)	(Mg/l)	250	48
Total Alkalinity (as CaCO ₃)	(Mg/l)	200	260
Total Ammonia (As NH ₃)	(Mg/l)	0.2	0.06
Nitrate (as NO ₃)	(Mg/l)	50	3.08
Nitrite (as NO ₂)	(Mg/l)	3.0	0.0132
Fluoride (as F)	(Mg/l)	1.0	0.43
Total Phosphates (as PO ₄ ⁻³)	(Mg/l)	2.0	0.4
Total Dissolved Solids (max)	(Mg/l)	500	317
Total Hardness (as CaCO ₃) (max)	(Mg/l)	250	190
Iron (as Fe)	(Mg/l)	0.3	0.08
Manganese (as Mn)	(Mg/l)	0.1	0.2
Sulphate (as SO ₄ ⁻²)	(Mg/l)	250	06

This report is issued for the information of the client. It shall not be published in total or in part without the written authority of the General Manager, National water supply & Drainage Board. This report is limited specifically to this specimen.

IT Jayathilaka
Senior Chemist

PATTI
Sample
Regional Laboratory,
National Water Supply & Drainage Board,
Wathimiya Road, Kurunegala

85
17/02/2020
Laboratory Assistant

"water - Every Drop is Precious"



NATIONAL WATER SUPPLY & DRAINAGE BOARD
Wathimiya Road - Kurunegala



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WATER QUALITY REPORT - Physical & Chemical

Date: 17.02.2020

1. Client/Organization /WSS : Project Manager , China State Construction Engineering Corporation (pvt) Ltd , Puwakpitiya ,Galewela
2. Laboratory Sample No. : 446/KU/PVT
3. Water Source : Sample No- 04
4. Location of Sample : Galewela
5. Date & Time of Collection : 13.02.2020
6. Date & Time of receipt in Lab : 13.02.2020
7. Sample collected by : Client
8. Report required by : Project Manager , China State Construction Engineering Corporation (pvt) Ltd , Puwakpitiya ,Galewela

Substance or characteristic	Unit	Requirement (Maximum) as SLS 614:2013	Results
PHYSICAL QUALITY			
Colour (Max)	(Hazen unit)	15	03
Turbidity (Max)	(NTU)	2	1.1
pH at 25°C ± 2°C		6.5-8.5	6.8
CHEMICAL QUALITY			
Chloride (as Cl ⁻)	(Mg/l)	250	50
Total Alkalinity (as CaCO ₃)	(Mg/l)	200	260
Total Ammonia (As NH ₃)	(Mg/l)	0.2	0.04
Nitrate (as NO ₃)	(Mg/l)	50	1.76
Nitrite (as NO ₂)	(Mg/l)	3.0	0.0165
Fluoride (as F)	(Mg/l)	1.0	0.32
Total Phosphates (as PO ₄ ⁻³)	(Mg/l)	2.0	0.40
Total Dissolved Solids (max)	(Mg/l)	500	333
Total Hardness (as CaCO ₃) (max)	(Mg/l)	250	200
Iron (as Fe)	(Mg/l)	0.3	0.06
Manganese (as Mn)	(Mg/l)	0.1	0.2
Sulphate (as SO ₄ ⁻²)	(Mg/l)	250	16

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TT Jayathilaka
Senior Chemist

P.A.T.T. Jayathilaka
Senior Chemist,
Regional Laboratory,
National Water Supply & Drainage Board,
Wathimiya Road - Kurunegala

[Signature]
Laboratory Assistant

"water - Every Drop is Precious"



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WATER QUALITY REPORT - Physical & Chemical

Date: 17.02.2020

1. Client/Organization /WSS : Project Manager , China State Construction Engineering Corporation (pvt) Ltd , Puwakpitiya ,Galewela
2. Laboratory Sample No. : 447/KU/PVT
3. Water Source : Sample No- 05
4. Location of Sample : Galewela
5. Date & Time of Collection : 13.02.2020
6. Date & Time of receipt in Lab : 13.02.2020
7. Sample collected by : Client
8. Report required by : Project Manager , China State Construction Engineering Corporation (pvt) Ltd , Puwakpitiya ,Galewela

Substance or characteristic	Unit	Requirement (Maximum) as SLS 614:2013	Results
PHYSICAL QUALITY			
Colour (Max)	(Hazen unit)	15	12
Turbidity (Max)	(NTU)	2	2.0
pH at 25°C ± 2°C		6.5-8.5	7.5
CHEMICAL QUALITY			
Chloride (as Cl ⁻)	(Mg/l)	250	42
Total Alkalinity (as CaCO ₃)	(Mg/l)	200	240
Total Ammonia (As NH ₃)	(Mg/l)	0.2	0.06
Nitrate (as NO ₃)	(Mg/l)	50	5.28
Nitrite (as NO ₂)	(Mg/l)	3.0	0.0132
Fluoride (as F)	(Mg/l)	1.0	0.20
Total Phosphates (as PO ₄ ⁻³)	(Mg/l)	2.0	0.4
Total Dissolved Solids (max)	(Mg/l)	500	279
Total Hardness (as CaCO ₃) (max)	(Mg/l)	250	180
Iron (as Fe)	(Mg/l)	0.3	0.06
Manganese (as Mn)	(Mg/l)	0.1	0.1
Sulphate (as SO ₄ ⁻²)	(Mg/l)	250	05

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TT Jayatilaka
Senior Chemist

P.A.T.T. Jayatilaka,
Senior Chemist,
Regional Laboratory,
National Water Supply & Drainage Board,
Wathimiya Road, Kurunegala

Dr. 19/02/2020
Laboratory Assistant

"water - Every Drop is Precious"

Annex 7: Schedule, progress, maps related to WMP implementation

Institutional Mechanism for Implementation & Monitoring of WMP under the MWSIP

I. This is based on followings;

Existing institutional setup for implementing MWSIP

Mitigations proposed with implementing arrangement in the CEA approved WMP

II. Overall Institutional Mechanism

No.	Category of mitigation actions*	Responsibility		
		Implantation	Coordination	Monitor & Guide Implementation
1	Mitigations directly related to Civil works (BoQ items of the respective Contractor)			
a	Constructing mitigation structures in the WMP (WMP-section 6.6.1)	Contractor	PMDSC/ PIU/ PMU	Steering Committee of MWSIP DWC
b	Restoration of ecosystems under (WMP-section 6.5.1) as PS-BOQ item	Contractor	PMDSC/ PIU/ PMU	
c	Site preparation related activities (e.g. critical plant transplanting)	PIU	PMU/ PMDSC	
2	Mitigations not directly related to Civil works (specific fund for implementing WMPs)			
a	Improving habitat availability for wildlife (WMP-section 6.5)	PIU/ PMU Gov. Agencies Community/ CBO Experts/ NGO	PIU/ PMU	1. Steering Committee of MWSIP (Existing) Sec./MMDE, Heads of CEA, DWC, FD, NPD, MASL, ID, ADD etc. 2. National Committee - Review of WMP Implementation:- PD-PMU, D/ Operations-DWC, CF/ EM&A-FD, Dir./ Env.-MASL, Dir./ Env.-ID, Deputy Commissioner/ Develpt.-DAD, Env. Sp./PMU 3. Regional Committee - Review of WMP Implementation (in NWPCP or UECP):- PD-PIU, Add. Dist. Sec (Develpt.), AD-DWC, DFO-FD, RPM-MASL, RDI-ID, Prov. Com.-DAD, Sen. Env. Officer-PIU
b	HEC management activities (WMP-section 6.7)	PIU/ PMU Gov. Agencies Community/ CBO Experts/ NGO	PIU/ PMU	

Note: * - Actions in WMP are taken in to 2 categories based on the institutional mechanism of the MWSIP that consists of (Employer) PMU, PIU; (Design-Supervision consultant) PMDSC and Contractor as well as Relevant Mandatory Government Institute on proposed action.

III. Specific Unit and Recruitment of Staff to MWSIP to facilitate above institutional mechanism within existing MWSIP set up:-

a) Name of the unit:

Implementation Unit of the Wild Life Management Plan (**IU-WMP**) as a part of the **Safeguard Cell of MWSIP**.

b) Responsibility:

Overall planning, implementation and monitoring implementation of the WMPs of NWPCP and UECP under the guidance of (1) MWSIP and (2) National/ Regional Review Committees of WMP Implementation.

c) Composition of IU-WMP:

Three (3) officers having knowledge & experience in the field of Wildlife Management as follows;

- i. One (1) National Coordinator Implementing Wildlife Management Plans under the MWSIP
- ii. Two (2) Implementation Officer of WMP for NWPCP and UECP

IV. The proposed implementation and monitoring responsibility with mode/ tools of monitoring:

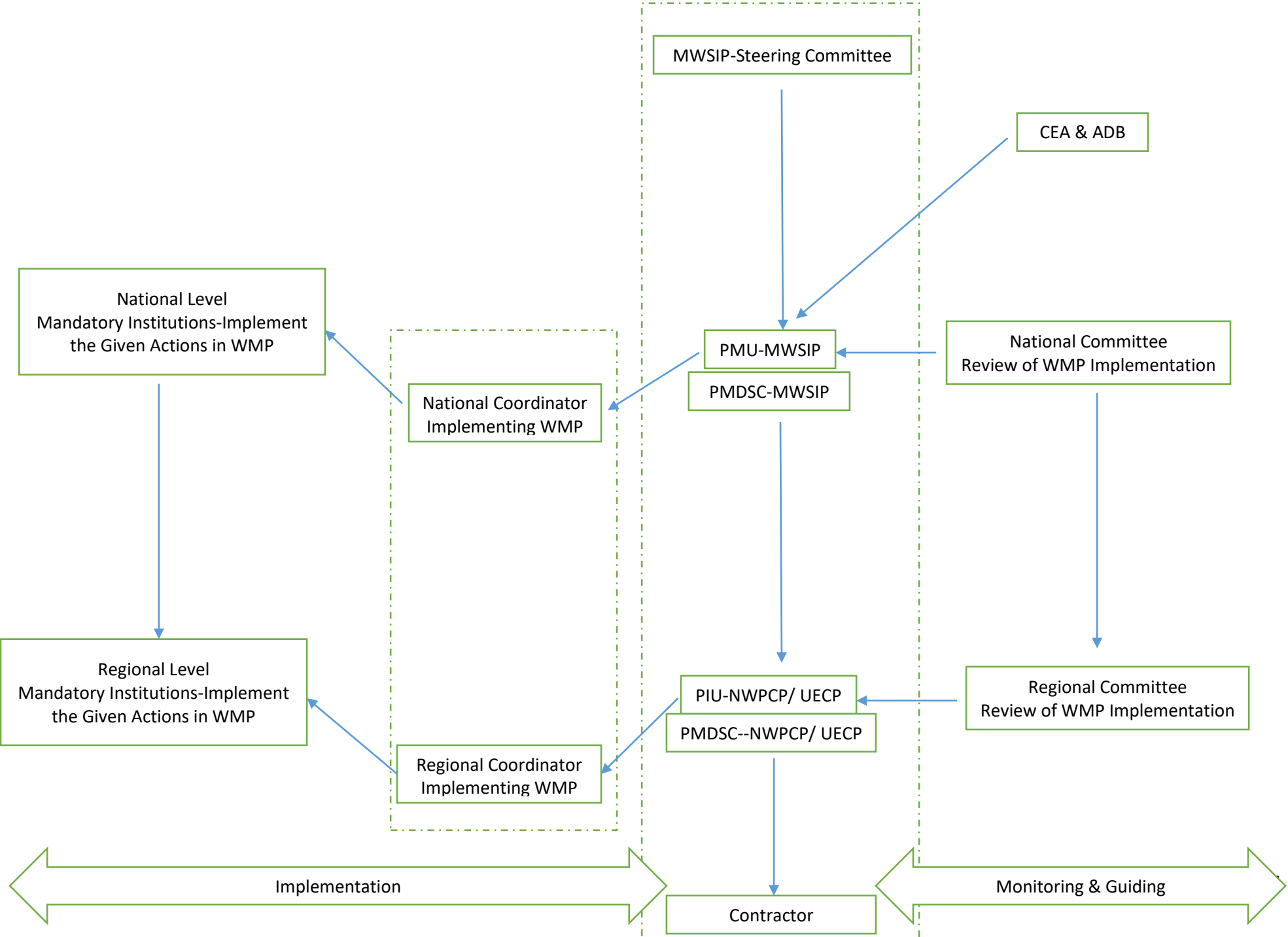
No.	Category of mitigation actions	Responsibility				
		Implementation/ Coordination		Monitoring		
		Implantation	Coordination	Self	Independent	External
1	Mitigations directly related to Project constructions					
a	Constructing mitigation structures in the WMP	Contractor	PMDSC/ PIU	Contractor PMDSC (RE/ TL) PIU/ PMU <i>Note 1</i>	National/Regional Review Committee of Implementing WMPs <i>Note 4</i> Independent Environment Safeguard Monitoring Specialist <i>Note 5</i>	CEA (& DWC) ADB <i>Note 6</i>
b	Reforestation proposed in WMP under the BOQ item	Contractor	PMDSC/ PIU	Contractor PMDSC (RE/ TL) PIU/ PMU <i>Note 1</i>		
c	Site preparation related activities (e.g. critical plant transplanting)	PIU	PMDSC	PMDSC (RE/ TL) PIU/ PMU <i>Note 2</i>		
2	Mitigations not directly related to Project constructions					
a	Improving habitat availability for wildlife (WMP-section 8.5; except 1 items)	Gov. Agencies Community/ CBO Experts/ NGO	PIU/ PMU	PIU PMDSC (TL) PMU <i>Note 3</i>	National/Regional Review Committee of Implementing WMPs <i>Note 4</i> Independent Environment Safeguard Monitoring Specialist <i>Note 5</i>	CEA (& DWC) ADB <i>Note 6</i>
b	HEC management activities (WMP-section 8.7; except 1 items)	Gov. Agencies Community/ CBO Experts/ NGO	PIU/ PMU	PIU PMDSC (TL) PMU <i>Note 3</i>		

"Note" presents the mode of monitoring and tools to be used for monitoring

	Mode of monitoring	Monitoring tool/s
--	--------------------	-------------------

Note 1	As per Table 2 of Annex 1	<ul style="list-style-type: none"> ➤ Relevant records of items 6 to 11 in Table 2 of Annex 1 ➤ Monitoring will be based on; <ul style="list-style-type: none"> • Contractor's work program and • Mitigation actions in WMP
Note 2	<ul style="list-style-type: none"> ➤ Weekly/ Monthly audit by PIU & PMDSC (RE) ➤ Monthly audit by PMU& PMDSC (TL) ➤ Monthly progress meeting 	<ul style="list-style-type: none"> ➤ Relevant records ➤ Monitoring will be based on; <ul style="list-style-type: none"> • Contractor's work program and • Mitigation actions in WMP
Note 3	<ul style="list-style-type: none"> ➤ Weekly/ Monthly audit by PIU & PMDSC (RE) ➤ Monthly audit by PMU& PMDSC (TL) ➤ Monthly progress meeting 	<ul style="list-style-type: none"> ➤ Relevant records ➤ Monitoring will be based on the "Gant Chart" of the WMP
Note 4	➤ Semiannual or 4 monthly Committee meeting	➤ Meeting minutes
Note 5	<ul style="list-style-type: none"> ➤ Review the existing documents, brief site audits and consultation of key parties/ agencies involved ➤ 1st month after each 6 months in each Calendar year 	Semiannual monitoring report
Note 6	<ul style="list-style-type: none"> ➤ Reviewing periodical submissions of PMU, ➤ Site audits of Environment Monitoring Committee (EMC) or ➤ Separate committee to review progress of WMP implementation, ➤ Appointing Independent monitoring Panel headed by DWC or DS etc. deem necessary by CEA and ADB in consultation with DWC 	<ul style="list-style-type: none"> ➤ Receiving monthly/ quarterly progress reports on implementing WMP from PMU ➤ Receiving dedicated section on progress of implementing WMP in Semiannual Environmental monitoring Report from PMU/ PMDSC ➤ Undertaking periodical site audits as part of EMC evaluation or through a dedicated Committee on WMP implementation as CEA & ADB wishes.

The Organogram-Implementation of the WMP for NWPCP and UECP under the MWSIP



Total Budget and Implementation Schedule of Wildlife Management Action Plan - NWPCP										
WMP Ref. No.	Main Objectives	Activity	Estimate/ LKR	Years						
				2019	2020	2021	2022	2023	2024	2025
6.7	Set up a unit to implement WMP (PMU & PIU level officers’ recruitment with infrastructure		42,000,000.00							
6.5.1	Enrichment/Restoration of identified habitat	a) Restoration of identified area / habitat for Fauna (Relevant maps in the WMP are attached)	20,000,000.00							
		b) Ecological Restratement of selected tanks	34,000,000.00							
		c) Establishing a buffer striff along the canal trace								
6.5.2	Management of invasive species	a)Eradication / control of Invasive floral Spp.	500,000. 00							
		b)Controlling the range expansion of native Species Bambusa bambos	25,000,000.00							
		c) Controlling the expansion of aquatic invasive flora	7,500,000							
		d)Management of AIS through awareness	5,000,000.00							
			1,500,000.00							
			5,000,000.00							
6.5.4	Annexing identified areas to existing PAs	a) Annexing 33.81 km2 area to Kahalla Sanctuary managed by DWC	3,000,000.00							
		b) Annexing 22.51 km2 area to Forest Reserve managed by FD								
6.6.2	Implementing a rescue program to translocate / transplant identified animal and plant Spp.	Rescue of priority plants and animals (Initiate a process and reimburse from contractor)	8,500,000.00							
6.7	HEC Mitigatory measures to be implemented in areas impacted by the NWCP	a) Radio collar 20 female and 10 male Elephants	33,840,000.00							
		b) Establishment of Elephant corridor - 2 identified on available radio tracking data	12,140,000.00							
		c) Establish additional elephant corridors and habitat linkages identified from new radio tracking data	500,400,000.00							
		d)Prevent obstruction to 28 identified elephant crossing points	71,620,000.00							
		Electric fence regularization	200,000.00							
		Declare as FD reserves any additional forest patches identified from new radio tracking data as critical habitat for elephants	505,400,000.00							
		Regulation of Chana cultivation	10,140,000.00							
		Declare elephant range as managed elephant reserves under DWC	300,000.00							
		Establish seasonal paddy field fencing program	200,140,000.00							
		Establish permanent fencing program around villages through DS	207,640,000.00							
		Initiate development of an Insurance scheme for crop damages by elephants	100,300,000.00							
		Development of awareness program on WMP and Implementation	50,500,000..00							
Total			1,793,620,000.00							

The Budget and Implementation Schedule of Priority Actions of Wildlife Management Master Plan of NWPCP under the allocated ADB funds (PAP-WMP-NWPCP) Date:25.01.2020										
WMP Ref. No.	Main Objectives	Activity	Estimate/ LKR	Years						
				2019	2020	2021	2022	2023	2024	2025
6.5.1	Enrichment/Restoration of identified habitat within the exsisting Protected area and selected tanks in the project commanding area.	(a) Restoration of identified area / habitat for Fauna Reforestation: 1. Beligamuwa Kanda - 165ha Mathale distric / Naula Range	Rs 69,149,840.00	Reforestation of 45 Ha Plant Production.- ok Survay and preparation of map.- ok land preparation.- ok Seedling.- ok Estimating. MOU with FD.- ok Groundidentification. Transportation and tree planting. - ok	Reforestation of 60 Ha. Establish of Fire belt. Invasive removal. Sample plotting. ANR establish. Maintaining of teak copies. Fire belt maintenance.	Reforestation of 60 Ha.	First maintenance	Second maintenance	Third maintenance	Forth maintenance
		02. Habitat Enrichment of Kahalla Pallekeke - 77 Ha Kurunegala distric / Malsiripura Range 3. Establishment of Gras land -06 Ha.(Pilot Project)	Rs 9,351,520.00	Preparation of Proposal. MoU with FD. Implementation of the program.	Habitat enrichment in 77ha. Maintenance of teak copies. Establishment of fire belts. Removal of invasive species. Maintenance of fire belts.					
		Restoration of 09 tanks in Kahalla Pallekele. Nagolla Wewa, Dummiya wewa 1, Dummiya Wewa 2,Telatiyagala Wewa 1, Teleyiyagala wewa 2, Telatiyagala wewa 3, Kakuna wewa, Kalamaduwa Wewa, Bambaragala Kannadi wewa.	Rs 7,138,000.00	Ground identification of 4 tanks in Kahalla - Sanctuary, - ok mapping and preparation of estimates.- ok	1.Restoration of identified 4 tanks througe the relevant procurement procedure. 2. Ground identification of 5 more tanks including Nagolla wewa to be restored in Kahalla Santuary and estimate preparation.	Restoration of identified 3 tanks following the relevant procurement procedure.	Restoration of 2 tanks followinf the same procedure.	maintenance	maintenance	maintenance
		b) Ecological Restrtaion of selected 06 tanks (Kumbukulawa Maha wewa, Kudawewa, Ihala Kumbukulawa wewa, Polpithigama Aluth wewa, Mawatha wewa.) + Ecological Restoration of 44 tanks (Total of 50 tanks)	Rs 1,659,204.00 Rs 25,038,260.00	1. Establishment of monitoring commetee -ok 2. Ground verification of identified 7 tanks with the committee.-ok 3. Surveying the pheriperla area & demarcation.-ok 4. preparation of estimate & restoration plan -ok 5.MOU with DAD.-ok 6. Implmentation throughn FO 7. Identification of the rest 43	1.Establishment of Gas gommana and Kattakaduwa of the 7 tanks (identified in2019). 2.Maintenance including gap filling. 3.Ground verification of 10 tanks (out of 43). 4. Survey & demarcation.	1. Establishment of Gas gommana and Kattakaduwa of the 10 tanks (identified in 2020) 2 Maintenance including gap filling. 3.Ground verification of 10 tanks (out of 33) 4.Survey and demarcation	1 Establishment of Gas gommana and Kattakaduwa of the 10 tanks (identified in 2021) 2 Maintenance including gap filling. 3.Ground erification of10 tanks(out of23) 4.Survey and demarcatio	1 Establishment of Gas gommana and Kattakaduwa of the 10 tanks (identified in 2022) 2 Maintenance including gap filling. 3.Ground erification of10 tanks(out of13) 4.Survey and demarcatio	1 Establishment of Gas gommana and Kattakaduwa of the 10 tanks (identified in 2023) 2Maintenance including gap filling. 3.Ground verification of last 03 tanks. 4.Survey and demarcatio	1 Establishment of Gas gommana and Kattakaduwa of the 03 tanks (identified in 2024) 2Maintenance including gap filling.
6.5.2	Management of invasive species	a)Eradication / control of Invasive floral Spp. Mimosa pigra - 11.5ha (Wemedilla tank and Nalanda tank)	Rs 5,000,000.00	1.Ground verification. 2 GIS Mapping 3.Preparation of norms. 4.MOU with ID. 5.Tender procedure.	1. <i>Removal of Mimosa pigra</i> , 11.5ha at Wemedilla tank. 2.Identification of other invasive sites along the canal striff, Ground verification and mapping.	1. Implementation of the removal process of the identified areas in 2020. 2. Maintenance at Wemadilla site.	Proceed with maintenance at all sites.	Proceed with Maintenance at all sites	Final maintenance	
				Removal of Wemedilla tank 10 ha in this year. Medium density - 05 ha High density -						
6.5.4	Annexing identified areas to existing PAs	a) Annexing 33.81 km2 area to Kahalla Sanctuary managed by DWC	Rs 3,000,000.00	1. Identification of forest patches -ok 2. Mapping the area -ok	1.Consultative meeting with FD/DWC. 2.Identifiction of land owner ship. 3.MoU with DWC/FD. 4.Initiate procurement procedure for boundary	1.Boundary survye of the identified forest patches. 2.Declare under FFPO/Forest Ordinance 3.Boundary demarcation.	1.Boundary survye of the identified forest patches. 2.Declare under FFPO/Forest Ordinance 3.Boundary demarcation.	1.Boundary survye of the identified forest patches. 2.Declare under FFPO/Forest Ordinance 3.Boundary demarcation.		

The Budget and Implementation Schedule of Priority Actions of Wildlife Management Master Plan of NWPCP under the allocated ADB funds (PAP-WMP-NWPCP) Date:25.01.2020										
WMP Ref. No.	Main Objectives	Activity	Estimate/ LKR	Years						
				2019	2020	2021	2022	2023	2024	2025
		b) Annexing 22.51 km2 area to Forest Reserve managed by FD			survey.					
6.6.2	Implementing a rescue program to translocate / transplant identified animal and plant Spp.	Rescue of priority plant and animal species in NWPCP- ICB 1	Rs 8,500,000.00	1. Initiate Base Line Ecological survey in sensitive areas, to locate priority plant and animal speies to be translocated/transplante 2. Initiate the implementation process of the rescue program	Carry out the rescue program in ICB 01 Kahalla Palkelele Sanctuary	Carry out the program in ICB 04 Forest Reserve				
6.7	HEC Mitigatoty messures to be implemented in areas impacted by NWPCP	a.Radio Collar 20 female and 10 male elephants	Rs 15,840,000.00	Manufacture two radio collar as a pilot program with UoM and continue over the verification of the success.						
		b.Establishment of Permanent Electric Fence.	Rs 3,000,000.00		Maintenance of Kalugala-Dummeeya Electric fence in the pheperal areas of kahalla Sanctuary. (Km 13.2) Preparation of Monotoring and Maintenance Plan.	Implementation of the monitoring and meintenance plan.				
		Development of awareness program on WMP and Implementation	Rs 1,500,000.00	56 awareness Programe	50 awareness Programe	50 awareness Programe	50 awareness Programe	50 awareness Programe	50 awareness Programe	50 awareness Programe
Total			Rs. 149,176,824.00							

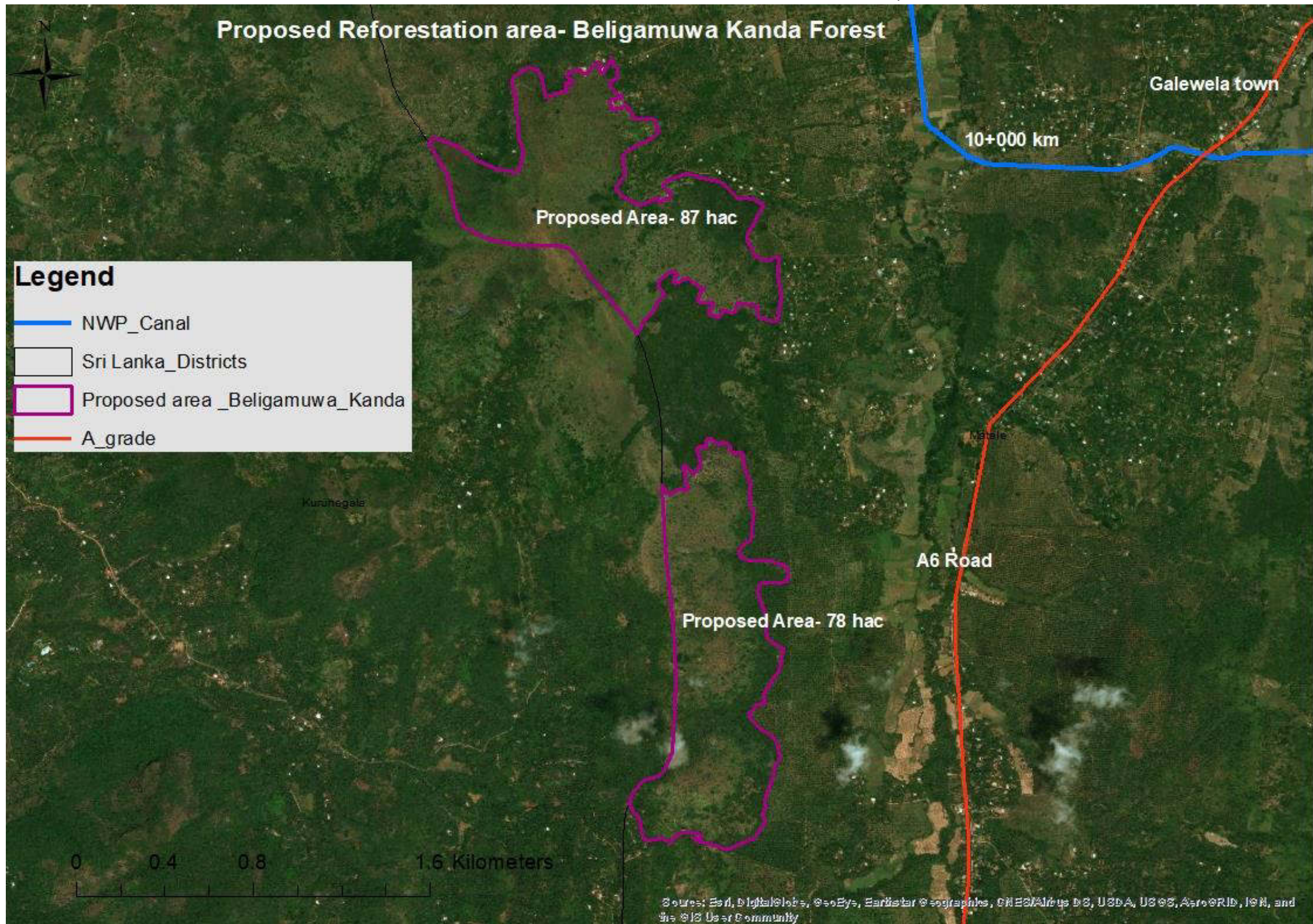
The Budget and Implementation Schedule of Non Priority Actions of Wildlife Management Master Plan of NWPCP Date:25.01.2020

WMP Ref. No.	Main Objectives	Activity								
			Estimate	2019	2020	2021	2022	2023	2024	2025
6.5.2	Management of invasive species	b) Controlling the range expansion of native species Bambusa bambos 1.Mechanical eradication of Bambusa bambos from the sites identified in the WMP. C) Controlling the expansion of aquatic invasive flora 1. Introduction of biological control program for salvenia & Euchronia	Rs 25,000,000.00	1.Ground verification 2.Preparation of GIS maps 3. Preparation of action plan	1.Committe establishment with DS/ID/DAD/FD/DWC/FO 2.Identification of the suitable biological control program & Preparation of an action plan with the expertise. 3.Preparation of management & monitoring mechanism. 4Identification of tanks in the cascade system infected with invasive aquatic flora. 5.Preparation of necessary estimates.	1. Introduction of the identified biological control program. 2. Monitoring, management & Re introduction if necessary.	1. Introduction of the identified biological control program. 2. Monitoring, management & Re introduction if necessary.	Monitoring and maintenance	Monitoring and maintenance	Monitoring and maintenance
		d)Management of AIS through awareness 1. Awareness Program.		1.Consultative meetings with stakeholders (ID/DAD//DWC/FD/FO) 2.Prparation of awareness program with the expertise 3.Program implementation.	Conduct awareness program for relevant stakeholder agencies	Conduct awareness program for relevant stakeholder agencies	Conduct awareness program for relevant stakeholder agencies	Conduct wareness program for relevant stakeholder agencies		
		2. Training Program.		Preparation of training program with expertise for stakeholder agencies(ID/DAD/DWC/FD/F O)	Conduct training program for relevant stakeholder agencies	Conduct training program for relevant stakeholder agencies	Conduct training program for elevant stakeholder agencies			
		3. Control the IAS in the restoration area.	Rs 5,000,000.00	Consultative meetings with stakeholder agencies (ID/ DAD/DWC/FD/FO)	Contrll further infestation of identified AIS in restored tanks manually through FOs	Contrll further infestation of identified AIS in restored tanks manually through FOs	Contrll further infestation of identified AIS in restored tanks manually through FOs	Contrll further infestation of identified AIS in restored tanks manually through Fos		
6.7	HEC Mitigatory measures to be implemented in areas impacted by NWPCP	Establishment of Elephant Corridor- 2 identified on available radio tracking data	Rs 12,140,000.00							
		Establish additriional elephant corridors and habitat linkages identified from new radio tracking data.	Rs 25,400,000.00	Collection of radio tracking Data	Collection of radio tracking Data	Collection of radio tracking Data	1.Consultative meeting with DWC/FD/DS/FO/CBOS 2.Preparation of action plan	Establish elephant corridors	Establish elephant corridors	
		d)Prevent obstruction to 28 identified elephant crossing points	Rs 19,120,000.00	1.Ground identification of obstrcted elephant crossing points. 2. Preparation of maps implementation action plan	consultative meeting with stakeholders.	Identify elephant crossing area based on radio tracking data.	Identify elephant crossing area based on radio tracking data.	HEC expert with prior expiriance to analyse the data and identify areas suitable to be manage as MER in collobaration with DWC.	HEC expert with prior expiriance to analyse the data and identify areas suitable to be manage as MER in collobaration with DWC.	HEC expert with prior expiriance to analyse the data and identify areas suitable to be manage as MER in collobaration with DWC.

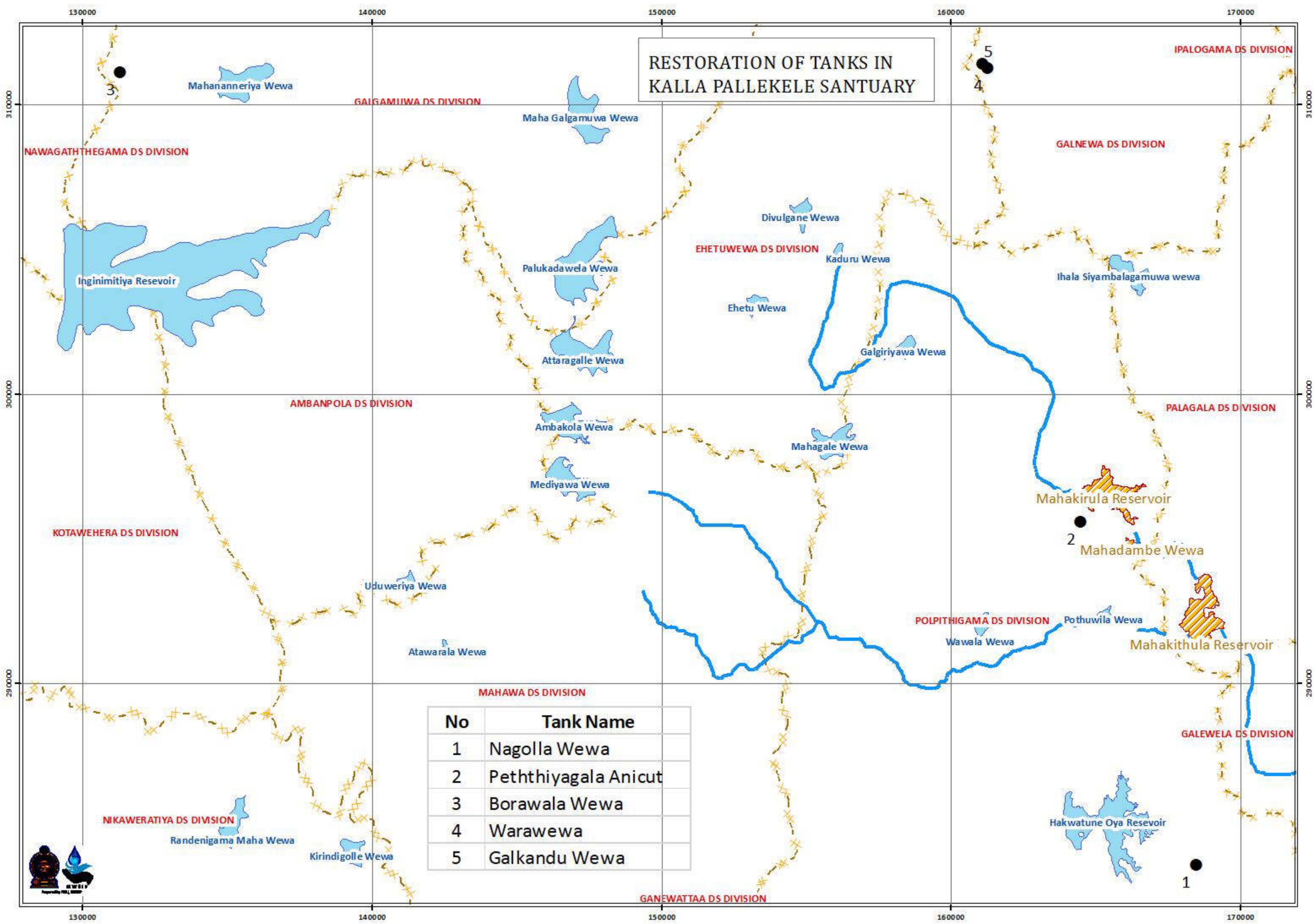
		Electric fence regulation	Rs 200,000.00	Consultation with DWC and Preparation of necessary regulations under FFPO	1.Identification of private elcetric fence 2.Identification of alternative action. 3.Enforce reguation under FFPO	.Enforce reguation under FFPO	.Enforce reguation under FFPO			
		Declare as FD reserves any additional Forest patches identified from new radio tracking dataas critical habitat for elephants.	Rs 5,400,000.00	1. Consultative meetings with FD/DWC 2.Identification of forest patches with FD/DWC 3.Preparation of action plan	1. Boundry survey 2.Declration as FD reserves 3. Boundry demarcation	1. Boundry survey 2.Declration as FD reserves 3. Boundry demarcation	1. Boundry survey 2.Declration as FD reserves 3. Boundry demarcation			
		Declar elephant range as manage elephant reserves under DWC	Rs 300,000.00	1.Identification of elephant range through collar data 2. Preparation of site plans 3.Preparation of action planfor implementation	1.Identification of elephant range through collar data	1.Identification of elephant range through collar data	1.Identification of elephant range through collar data	1.Preparation of site plan/maps 2.Establish MER under FFPO	1.Preparation of site plan/maps 2.Establish MER under FFPO	1.Preparation of site plan/maps 2.Establish MER under FFPO
		Establish seasonal paddy field fencing program	Rs 19,640,000.00	1.Ground identification of paddy fields 2.Preparation of maps and action plan/selection criteria 3.Preparation of maintenance mechanism	1.Consultative meetings with stake holders, DS and DAD 2.Establish committee with DAD 3.Formation of CBOs	establish seosanal paddy field fencing in Mathale distric / Ds Galewela	establish seosanal paddy field fencing in Kurunegala distric / Ds Polpithigama	establish seosanal paddy field fencing in Kurunegala distric / Ds Mahawa	establish seosanal paddy field fencing in Kurunegala distric / Ds Ahetuwewa	establish seosanal paddy field fencing in Kurunegala distric / Ds Galgamuwa
		Establish permanent fencing program around villages through DS	Rs 40,140,000.00	1.Ground identification of villages 2.Preparation of maps and action plan/selection criteria 3.Preparation of maintenance mechanism	1.Consultative meetings with stake holders, DS 2.Establish committee with DS 3.Formation of CBOs	establish permanent village fencing in Mathale distric / Ds Galewela	establish permanent village fencing in Kurunegala distric / Ds Polpithigama	establish permanent village fencing in Kurunegala distric / Ds Mahawa	establish permanent village fencing in Kurunegala distric / Ds Ahetuwewa	establish permanent village fencing in Kurunegala distric / Ds Galgamuwa
Total			Rs 152,340,000.00							

The Proposed Plot of Land (165 Ha; Beligamuwakanda Forest Reserve) for Reforestation under the NWPCP

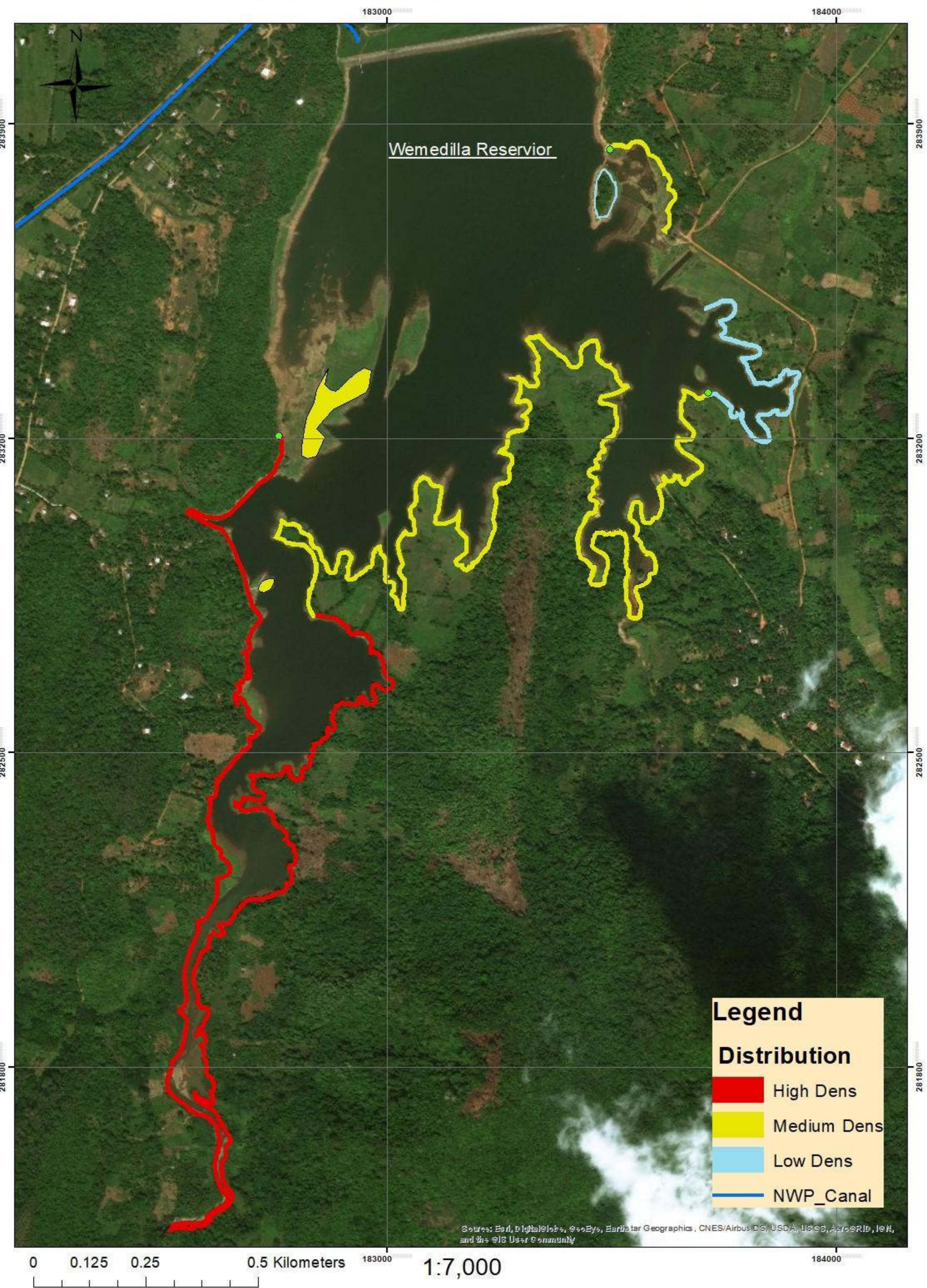
Matale DFO Division, Naula Beat in Galewela Divisional Secretary Area






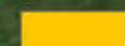
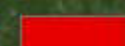

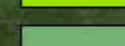


Mimosa Pigra (Yoda Nidikumba) Distribution in Wemedilla Reservior



Forest to be annexed

Legend

-  Proposed_Canals
-  Covered with Electric Fenced
-  No Fenced or Signages
-  Isolated/No Fenced or Signages
-  Paddy/Settlements



Id	Area	Present_st
1	59	Forest-Fenced
2	205	Forest-Fenced
3	86	Pallekele Forest - Fenced
4	312	Pallekele Forest - Fenced
5	27	Forest-Fenced
6	257	Forest-Fenced
7	17	Kalawewa National park - Fenced
8	10	Kalawewa National park - Fenced
9	22	Kalawewa National park - Fenced
10	284	Kalawewa National park - Fenced
11	67	Kalawewa National park - Fenced
12	74	Kalawewa National park - Fenced
13	728	Kahalla_pallakele sanactuary- Fenced
14	561	Forest - Fenced
15	514	Korakahagolla Forest - Fenced
16	1340	Forest- Boundary marked
17	48	Forest land- Galgiriya kanda, Boundary marked
18	38	Lake-Out side fence
19	96	Kalawewa National park -No fence,No signages
25	118	Forest_No fenced,No Signages
26	85	Forest_No fenced,No Signages
27	33	Forest_No fenced,No Signages
28	116	Forest_No fenced,No Signages
20	39	KPS- Outside the fenced, No signages
21	153	KPS- Outside the fenced, No signages



0 2.25 4.5 9 Kilometers


Sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Proposed Elepahant corridor - Galgamuwa Teak plantaion to Ambakolawewa along Mi oya



No	Date	Activity	Place	Decision taken	Photos
1	2020.01.09	Discussion with DWC & FD officer about teak removing and reforestation/ grassland management inside Kahalla-pallakele sanctuary	DFO-office, Kurunegala	Arrange joined field inspection to decided replanting or ANR og grassland	 A group of men are seated around a large wooden conference table in a room with a polished wooden ceiling. They appear to be in a meeting, with some looking at documents and others gesturing.
2	2020.01.14	Boundary demarcation of Kumbukulawa Tanks by licensed surveyor	Kumbukulawa Tank- Polpitigama	Decided to arranged a meeting with DS to solve encroachment issues	 Three men are standing in a grassy field. One man on the left is wearing a red shirt and a black bag. The man in the middle is wearing a blue and white striped shirt. The man on the right is wearing a dark shirt and holding a blue folder. They are looking at the ground, possibly discussing a survey or boundary demarcation.

3	2020.01.23	Field inspection with AD-DWC Kurunegala for Kahalla – Pallakele Sanctuary reforestation work	Irudeniyya-Kahalla Pallakele Sanctuary (KPS)		
4	2020.01.31	Surveying the Pethiyagala Anicut inside Kahalla-pallakele sanctuary	KPS	Prepared estimate according to survey	
5	2020.02.11	Discussion with Kumbukulawa farmer organization(FO)	DS office-Polpitigama	Sign MOU with FO for restoration	

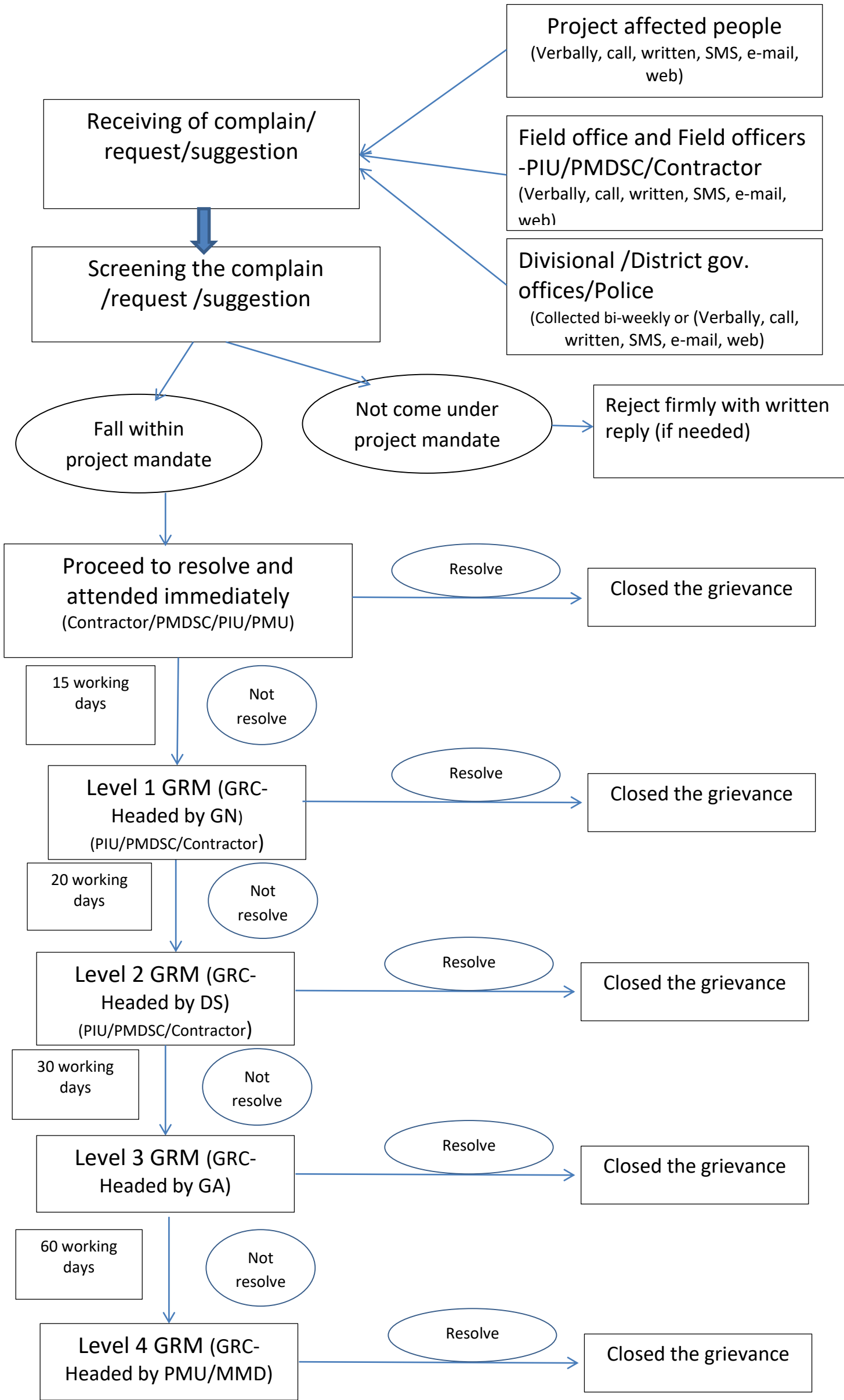
		leader about ecological restoration of Kumbukalawa tank			
6	2020.02.18	Field inspection with FD officers at Beligamuwa kanda reforestation area	Beligamuwakanda-Galewela	Decided to start maintenance & Gap filling as soon as possible	
7	2020.03.12	Discussion & awareness session with DWC officers about WMP progress	PIU-Polpitigama		

8	2020.02.25	National Review Committee Meeting on the implementation of WMP	PMU-MWSIP Conference room	<p>Committee Approved:</p> <ul style="list-style-type: none"> a. WM & HEC Mitigation Action Plans for NWPCP/UECP b. Budget & Implementation Institutional & Fund disbursement Methodology c. Prioritize WM & HEC Mitigation Action Plans for NWPCP/UECP d. Implementation & Monitoring Institutional Mechanism of WMP under MWSIP <p><i>Annex G; Minutes of the meeting</i></p>	 
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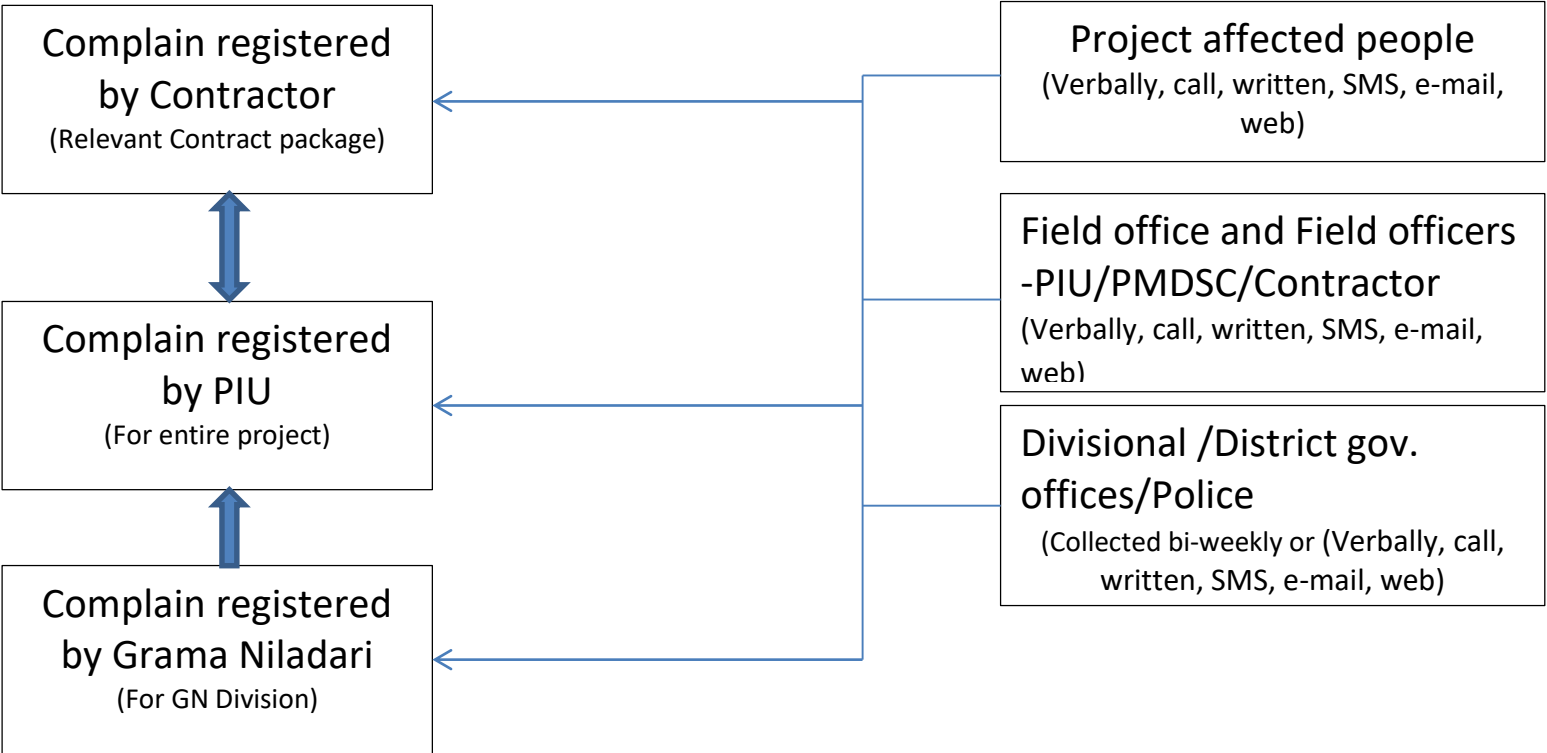
Annex 8:Flowchart showing GRM implementation

North western Province Canal Project

Grievance Redress Mechanism- Flow Chart



Grievance Registration Mechanism- Flow Chart



Annex 9:Photographic Evidences

	
<p>Cleaning the polluted private well at 13+400 km – ICB2</p>	<p>Covid-19 inspection by MOH Galewela –NCB1(NEM of-office premises)</p>
	
<p>Covid-19 inspection by MOH Galewela –ICB2 (CSCEC site-20+650 Km)</p>	<p>Stakeholder agency awareness at PIU on 12.03.2020</p>
	
<p>WMP- National review committee meeting at PMU on 25.02.2020</p>	<p>Boundary demarcation & tree enumeration for ICB1</p>
	
<p>WMP meeting with DWC & FD officers</p>	<p>Temporary electric fence construction along construction site – ICB2 (19+100-19+650 Km)</p>



Ecological Restoration tank inspection –Kumbukula Tank with committee members



Beligamuwa Kanda Reforestation site inspection on 26.06.2020



Nursery inspection -Beligamuwa Kanda Reforestation on 26.06.2020



Special GRC meeting for CSCEC Batching plant issues at Katupotha, Hombawa