Annex 11.2-1 JICA Environmental Checklist (For Power Transmission and Distribution Lines / Roads)

400 kV Sampoor – New Habarana T/L Project

Category	Environmental Item	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
1 Permits and Explanation	(1) EIA and Environmental Permits	(a) Have EIA reports been already prepared in official process?	(a) Y	(a) CEB submitted IEE report to PAA (Project Approving Agency, Ministry of Power and Energy) in November, 2014.
		(b) Have EIA reports been approved by authorities of the host country's government?	(b) Y	(b) PAA approved IEE report and issued an official approval on December 10, 2014.
		(c) Have EIA reports been unconditionally approved? If conditions are imposed on the approval of EIA reports, are the conditions satisfied?	(c) Y	(c) Conditions by relevant authorities have been imposed. Since the final IEE report showed that main conditions were already satisfied and the final IEE report shows remained conditions are surely satisfied during implementation of the Project, the IEE report was approved.
		(d) In addition to the above approvals, have other required environmental permits been obtained from the appropriate regulatory authorities of the host country's government?	(d) NA	(d) There are no other environmental permits required prior to the project approval in Sri Lanka.
	(2) Explanation to the Local Stakeholders	(a) Have contents of the project and the potential impacts been adequately explained to the Local stakeholders based on appropriate procedures, including information disclosure? Is understanding obtained from the Local stakeholders?	(a) Y	(a) Contents of the project and the potential impacts have been adequately explained to the local stakeholders in the stakeholders meeting and small public meeting, and Local stakeholders understood them well.
		(b) Have the comment from the stakeholders (such as local residents) been reflected to the project design?	(b) Y	(b) The comments from affected persons were reflected into the Project design.
	(3) Examination of Alternatives	(a) Have alternative plans of the project been examined with social and environmental considerations?	(a) Y	(a) Multiple alternatives were examined in order to avoid or minimize adverse impacts. CEB has made all efforts, wherever line route is possible not to pass through residential areas, to keep the minimum involvement and to adopt shortest possible route.

2 Pollution Control	(1)Water Quality	(a) Is there any possibility that soil runoff from the bare lands resulting from earthmoving activities, such as cutting and filling will cause water quality degradation in downstream water areas? If the water quality degradation is anticipated, are adequate measures considered? (b)* Is there a possibility that surface runoff from roads will contaminate water sources, such as groundwater?	(a) Y (b) N	(a) There is a possibility that earthmoving activities cause soil runoff from a few transmission tower sites located in hill slopes. When earthmoving activities are done, clearing vegetation will be minimized and earth bunds will be built beside drainage channels to avoid overspill. Hold drainage water in sedimentation ponds to reduce the sediment content and by use of silt traps etc. prior to discharge to waterbodies. Accordingly, possibility of water quality degradation in downstream basin becomes very small. (b) There is almost no possibility that surface runoff from existing roads and temporal access roads. Contaminants included in the surface runoff are negligible.
3 Natural Environment	(1) Protected Areas	(a) Is the project site located in protected areas designated by the country's laws or international treaties and conventions? Is there a possibility that the project will affect the protected areas?	(a) N	(a) There is no National Park, Nature Reserve, Strict Natural Reserve, National Heritage and Wilderness Area in the project area and its surrounding. However, there is a possibility that the transmission line will pass by the edge of few Forest Reserves. In these area CEB should take adequate mitigation measures according with the instructions and guides from Forest Department.
	(2) Ecosystem	(a) Does the project site encompass primeval forests, tropical rain forests, ecologically valuable habitats (e.g., coral reefs, mangroves, or tidal flats)? (b) Does the project site encompass the protected habitats of endangered species designated by the country's laws or international treaties and conventions?	(a) N (b) Y	(For environmental impacts during pre-construction and construction stage) (a) The project site doesn't encompass primeval forests, tropical rain forests, ecologically valuable habitats. Transmission line routes have been designed not to encompass these areas. (b) a) Plant -During a field survey by CEB, following species listed in IUCN Red List 2012 criteria were observed. one endangered species (EN), -*Diospyros ebenum* (Sinhara name: Kaluwara, common name: Ceylon ebony) two vulnerable species (VU) -*Haldina cordifoli*a (Sinhara name: Kolon) and -*Mitragyna parvifolia* (Sinhara name: Helamba) b) Animal

		(c) If significant ecological impacts are anticipated, are adequate protection measures taken to reduce the impacts on the ecosystem?	(c) Y	- There is a possibility which impact roaming of elephants during the construction and by the existence of transmission line. Elephant is the endangered animal species listed in IUCN Red List 2012 criteria. (c) Ecological impacts shown above (b) are moderate and can be mitigate by the following measures. a) Plant - EN species, *Diospyros ebenum* is found regenerating naturally in and near the Project area. - VU species, *Haldina cordifolia* and *Mitragyna parvifolia* are common species found in seasonally water logged low-lying areas or near waterways. If it is unavoidable to remove some trees of the three species, such activities in the area will not affect the species survival. Additionally trees of these three species will be transplanted and included in the reforestation program conducted by Forest Department (FD). b) Animal Impact on roaming of elephants during the construction of transmission line is anticipated. Because of the height of transmission towers and the conductors, direct impacts on elephants are small. However, in order to avoid any unnecessary disturbances to elephant, following adequate mitigation measure will be taken during the construction period. -A minimum of 13m of clearance is kept between the transmission line and the ground where there are elephant crossings to ensure safety of the elephants. -Proper strong fencing should be used to secure tower foundation areas during construction. -Construction should avoid rainy season and complete rapidly. Construction is limited to daytime in forest area. (d) There may be no disruption of migration routes and habitat fragmentation of wildlife and livestock.

		(d) Are adequate measures taken to prevent disruption of migration routes and habitat fragmentation of wildlife and livestock? (e) Is there any possibility that the project will cause the negative impacts, such as destruction of forest, poaching, desertification, reduction in wetland areas, and disturbance of ecosystem due to introduction of exotic (non-native invasive) species and pests? Are adequate measures for preventing such impacts considered? (f) In cases where the project site is located in undeveloped areas, is there any possibility that the new development will result in extensive loss of natural environments?	(d) NA (e) Y (f) N	No bird migratory routes and important bird habitats were recognized during the ecological study. (e) There is a possibility that the Project will cause deforestation, though the scale of the deforestation is small. Adequate mitigation measure, reforestation will be planned and conducted by Forest FD. The reforestation program is financially supported by CEB. (f) Although planned transmission line is long but area of affected space is not so large. Accordingly, execution of the Project will not result in extensive loss of natural environments.
3 Natural Environment	(3) Topography and Geology	(a) Is there any soft ground on the route of power transmission and distribution lines that may cause slope failures or landslides? Are adequate measures considered to prevent slope failures or landslides, where needed? (b) Is there any possibility that civil works, such as cutting and filling will cause slope failures or landslides? Are adequate measures considered to prevent slope failures or landslides? (c) Is there a possibility that soil runoff will result from cut and fill areas, waste soil disposal sites, and borrow sites? Are adequate measures taken to prevent soil runoff? (d)* Where roads are newly installed, is there a possibility that the project will affect the existing means	(a) N (b) N (c) Y (d) N	(a) There is no soft ground on the route of power transmission line that may cause slope failures or landslides. (b) There is no possibility that civil works, such as cutting and filling will cause slope failures or landslides. In the past, landslides or earth slips have never been reported within the Project area and the area is stable at present. (c) There is a possibility that earthmoving activities cause soil runoff from a few transmission tower sites located in hill slopes. When earthmoving activities are done, clearing vegetation will be minimized and earth bunds will be built beside drainage channels to avoid overspill. Excess soil after refilling of foundation could be disposed at a disposal site which is designated by the local authority to minimize soil erosion. Earth and sand using for construction are obtained from the licensed quarries /borrow pits where environmentally controlled. (d) Since newly installed access roads are temporal roads and are not long, there is no impact on the residents to existing

		of transportation and the associated workers? Is there a possibility that the project will cause significant impacts, such as extensive alteration of existing land uses, changes in sources of livelihood, or unemployment? Are adequate measures considered for preventing these impacts?		means of transportation and the associated workers. There is also no possibility due to newly installed access roads that the Project will cause significant impacts, such as extensive alteration of existing land uses, changes in sources of livelihood, or unemployment.
4 Social Environment	(1) Resettlement	(a) Is involuntary resettlement caused by project implementation? If involuntary resettlement is caused, are efforts made to minimize the impacts caused by the resettlement?	(a) N	(a) There is no involuntary resettlement caused by the Project.
		(b) Is adequate explanation on compensation and resettlement assistance given to affected people prior to resettlement?	(b) NA	(b) Not applicable.
		(c) Is the resettlement plan, including compensation with full replacement costs, restoration of livelihoods and living standards developed based on socioeconomic studies on resettlement?	(c) NA	(c) Not applicable.
		(d) Are the compensations going to be paid prior to the resettlement?	(d) NA	(d) Not applicable.
		(e) Are the compensation policies prepared in document?	(e) NA	(e) Not applicable.
		(f) Does the resettlement plan pay particular attention to vulnerable groups or people, including women, children, the elderly, people below the poverty line, ethnic minorities, and indigenous peoples?	(f) NA	(f) Not applicable.
		(g) Are agreements with the affected people obtained prior to resettlement?	(g) NA	(g) Not applicable.
		(h) Is the organizational framework established to properly implement resettlement? Are the capacity and budget secured to implement the plan?	(h) NA	(h) Not applicable.
		(i) Are any plans developed to monitor the impacts of resettlement?	(i) NA	(i) Not applicable.
		(j) Is the grievance redress mechanism established?	(j) NA	(j) Not applicable.

	(2) Living and Livelihood	(a) Is there a possibility that the project will adversely affect the living conditions of inhabitants? Are adequate measures considered to reduce the impacts, if necessary?	(a) N	(a) There is no factor in the Project activities which adversely affect the living conditions of inhabitants.
		(b) Is there a possibility that diseases, including infectious diseases, such as HIV will be brought due to immigration of workers associated with the project? Are adequate considerations given to public health, if necessary?	(b) Y	(b) In construction stage, there is the possibility that infectious diseases, such as HIV, will be brought due to the migration of construction workers. Mitigation measures are described in "5. Others (1) Impacts during construction".
		(c) Is there any possibility that installation of structures, such as power line towers will cause a radio interference? If any significant radio interference is anticipated, are adequate measures considered?	(c) N	(c) Since there isn't a single house underneath the 20m width corridor of the transmission line and towers are installed far from living places, there is almost no possibility that any electromagnetic interference occurs.
		(d) Are the compensations for transmission wires given in accordance with the domestic law?	(d) Y	(d) The compensations for transmission wires given in accordance with domestic law, Electricity Act.
		(e)* Where roads are newly installed, is there a possibility that the project will affect the existing means of transportation and the associated workers? Is there a possibility that the project will cause significant impacts, such as extensive alteration of existing land uses, changes in sources of livelihood, or unemployment? Are adequate measures considered for preventing these impacts?	(e) N	(e) There is no impact on the residents to existing means of transportation and the associated workers by newly installed access roads. There is also no possibility that the Project will cause significant impacts, such as extensive alteration of existing land uses, changes in sources of livelihood, or unemployment.
		(f)* Is there any possibility that the project will adversely affect road traffic in the surrounding areas (e.g., increase of traffic congestion and traffic accidents)?	(f) Y	(f) There is a possibility that the Project will adversely affect road traffic in the surrounding areas during construction. Mitigation measures are described in "5. Others (1) Impacts during construction".
		(g)* Is there any possibility that roads will impede the movement of inhabitants?	(g) N	(g) There is no possibility that temporal access roads will impede the movement of inhabitants, Temporal access roads will be removed after construction activities.
4 Social Environment	(3) Heritage	(a) Is there a possibility that the project will damage the local archeological, historical, cultural, and religious heritage? Are adequate measures considered to protect these sites in accordance with the country's laws?	(a) N	(a) There are no local archeological, historical, cultural, nor religious heritage in and around the Project site.

	(4) Landscape	(a) Is there a possibility that the project will adversely affect the local landscape? Are necessary measures taken?	(a) N	(a) There is no landscape element to need special consideration.
	(5) Ethnic Minorities and Indigenous Peoples	(a) Are considerations given to reduce impacts on the culture and lifestyle of ethnic minorities and indigenous peoples? (b) Are all of the rights of ethnic minorities and indigenous peoples in relation to land and resources respected?	(a) Y (b) Y	(a) There is no activity within the Project site that would particularly affect the culture and lifestyle of ethnic minorities and indigenous peoples.) (b) All of the rights of ethnic minorities and indigenous peoples in relation to land and resources have been respected in the Project.
	(6) Working Conditions	(a) Is the project proponent not violating any laws and ordinances associated with the working conditions of the country which the project proponent should observe in the project? (b) Are tangible safety considerations in place for individuals involved in the project, such as the installation of safety equipment which prevents industrial accidents, and management of hazardous materials? (c) Are intangible measures being planned and implemented for individuals involved in the project, such as the establishment of a safety and health program, and safety training (including traffic safety and public health) for workers etc.? (d) Are appropriate measures taken to ensure that security guards involved in the project not to violate safety of other individuals involved, or local residents?	(a) Y (b) Y (c) Y (d) Y	(a) CEB and the contractor shall be not violating the regulations in Sri Lanka that covers working conditions, the welfare of workers and safety and health. (b) -During construction period, tangible safety considerations (installation of safety equipment which prevent working accidents, physical zoning for of safety work area, etc.) should be taken in place for individuals involved in the Project. Tangible safety measures should be taken as follows. - Work around high-voltage power line and transportation of heavy machineries should be done under monitoring by safety management supervisor of the contractor. (c) Intangible safety measures should be taken as follows. - The contractor should prepare safety and health management plan, including traffic safety, accident prevention and public sanitation, safe handling and management of any dangerous and hazardous materials, etc. according to the regulations relating to working conditions. - The contractor should conduct educational training of safety, health and public sanitation to its workers and staffs. (d) The contractor should implement proper and strict management and education of guards not to infringe safety and security of residents, staff and workers.

5 Others	(1) Impacts during Construction	(a) Are adequate measures considered to reduce impacts during construction (e.g., noise, vibrations, turbid water, dust, exhaust gases, and wastes)?	(a) Y	(a) a1) Noise and vibrations (generated by construction vehicles and heavy machineries) - Maintenance of vehicles and heavy machineries is improved sufficiently and operate them on low-noise/ vibration condition. - Consideration and restriction of working time in the morning and at night. a2) Air pollution (caused by transportation vehicles and heavy machineries) - Use good quality fuel and oil for vehicles and heavy machineries. a3) Water Pollution - Hold turbid drainage water in sedimentation ponds to reduce the sediment content and by use of silt traps etc. prior to discharge to waterbodies. - Construction vehicles and heavy machineries shall be used so as not to leak oil. Waste oil is disposed of safely in storage. a4) Wastes - Construction waste and waste from worker's camp shall be collected, segregated, properly reused and recycled according to regulations and rules of local government. Then all remained waste will be disposed to disposal site designated by local authority, without causing visual or leachate pollution or hazards to other users. - The contractor shall provide education and enlightenment for above activities (decreasing quantity, segregation, reuse and recycling) to workers. - Remaining sand and soil should be backfilled in principle.
		(b) If construction activities adversely affect the natural environment (ecosystem), are adequate measures considered to reduce impacts?	(b) Y	(b) Environmental considerations for this check item is shown in “3 Natural Environment, (2) Ecosystem”
		(c) If construction activities adversely affect the social environment, are adequate measures considered to reduce impacts?	(c) Y	(c) c1) Traffic congestion and traffic access failure - Public notice prior related to temporary traffic congestion. - If necessary, time shift of activities of construction or operation

				of transport vehicles. c2) Public health and sanitation - Mobile temporary toilets will be installed for construction workers, if necessary. c3) Infectious diseases There is the possibility that infectious diseases, such as HIV, will be brought due to the immigration of construction workers. Mitigation measures are as follows. - HIV education for construction workers and residents - Regional workers will be hired preferentially as much as possible. c4) Accidents (relating to construction vehicles and heavy machineries or construction activities) - Notify the construction plan (details of construction works, schedule and place) to the residents of the areas around the construction sites. - Putting up a notice about the details above on the adequate public notification sites. - Clarification of the boundaries of the construction areas with rope, fences, and other means.
	(2) Monitoring	(a) Does the proponent develop and implement monitoring program for the environmental items that are considered to have potential impacts? (b) What are the items, methods and frequencies of the monitoring program? (c) Does the proponent establish an adequate monitoring framework (organization, personnel, equipment, and adequate budget to sustain the monitoring framework)? (d) Are any regulatory requirements pertaining to the monitoring report system identified, such as the format and frequency of reports from the proponent to the regulatory authorities?	(a) Y (b) Y (c) Y (d) Y	(a) CEB developed the monitoring program. CEB implements the program from the start of the pre-construction works. (b) In the monitoring program, the items, methods and frequencies and other relevant details are described. (c) CEB established the monitoring framework (team, responsible person, budget, etc.) to sustain the monitoring program. (d) The PAA (Project Approving Agency) must make a plan to monitor the Project and must submit the plan to CEA with the report provided by the proponent. However any detailed regulatory requirements pertaining to the monitoring report system are not identified by PAA. Usually, the proponent can identify items/requirements pertaining to the monitoring report

				system.
6 Note	Reference to Checklist of Other Sectors	(a) Where necessary, pertinent items described in the Road checklist should also be checked (e.g., projects including installation of electric transmission lines and/or electric distribution facilities).	(a) Y	(a) Because the Project includes the construction of roads for access to the Project site or for transportation of materials and equipment, pertinent items described in the Road checklist were also be checked. Added items are shown as ( )* in Main Check Items.
	Note on Using Environmental Checklist	(a) If necessary, the impacts to transboundary or global issues should be confirmed, (e.g., the project includes factors that may cause problems, such as transboundary waste treatment, acid rain, destruction of the ozone layer, or global warming).	(a) Y	(a) In the Project, by reduction of power loss in transmission network, suppression of greenhouse gas emission due to the transmission loss can be expected. Accordingly, for the Project it can be expected that greenhouse gas emission is reduced.

1) Regarding the term “Country’s Standards” mentioned in the above table, in the event that environmental standards in the country where the project is located diverge significantly from international standards, appropriate environmental considerations are required to be made.
In cases where local environmental regulations are yet to be established in some areas, considerations should be made based on comparisons with appropriate standards of other countries
(including Japan's experience).

2) Environmental checklist provides general environmental items to be checked. It may be necessary to add or delete an item taking into account the characteristics of the project and the particular circumstances of the country and locality in which it is located.

Annex 11.2-2 400 kV T/L Monitoring Form

1． Responses/Actions to Comments and Guidance from Government Authorities and the Public

Monitoring Item	Monitoring Results during Report Period
Responses/Actions to Comments and Guidance from Government Authorities	

2． Mitigation Measures

- Air Quality（Ambient Air Quality） during Construction Stage

Item	Unit	Measured Value (Mean)	Measured Value (Max.)	Country's Standards*	Referred International Standards**	Remarks (Measurement Point, Frequency, Method, etc.)
SO_2	$\mu g/m^3$			80 (24 hrs.)	20 (24 hrs.)	
NO_2	$\mu g/m^3$			100(24 hrs.)	200 (1 hr)	
CO	$\mu g/m^3$			10,000 (8hrs.)	10,000 (1 hr)	
PM_{10}	$\mu g/m^3$			100 (24 hrs.)	50 (24 hrs.)	

Note: *Maximum permissible value, ** WHO Guidelines

- Water Quality（Ambient Water Quality） during Construction Stage

Item	Unit	Measured Value (Mean)	Measured Value (Max.)	Country's Standards*	Referred International Standards	Remarks (Measurement Point, Frequency, Method, etc.)
pH	-			-		
SS	ppm			-		
BOD/	ppm			-		
Turbidity	NTU			-		
Oil & Grease	ppm			-		

Note: * Ambient water quality standards are not established in Sri Lanka.

- Waste during Construction Stage

Monitoring Item	Monitoring Results during Report Period
Waste from construction site and workers camp	

- Ambient Noise Quality during Construction Stage

Item	Unit	Measured Value (Mean)	Measured Value (Max.)	Country's Standards	Referred International Standards	Remarks (Measurement Point, Frequency, Method, etc.)
Noise level	dB(A)			Rural residential area -55(day time), -45(night time)		

３． Natural Environment

- Ecosystem

Monitoring Item	Monitoring Results during Report Period
Conservation condition of Protected Area (three Forest Reserves and one Conservation Forest Reserve	
Soil erosion/destabilization of soil	
Flora - Impacts on endangered species	
Progress of cutting/removal of trees in Forest	
Fauna - Disturbance to migration route of elephant	

４． Social Environment

- Compensation

Monitoring Item	Monitoring Results during Report Period
Compensation for cutting/removal of trees in home garden	
Compensation for land use restriction of paddy land due to construction of tower footings and access roads	

- Living / Livelihood

Monitoring Item	Monitoring Results during Report Period
Temporary traffic congestion	
Health and sanitation conditions (drinking water and sanitation facilities)	
Infectious diseases such as HIV/AIDS	
Traffic accidents	
Working condition including worker's safety	

Annex 11.2-3 Location and Land Use around Angular Points (AP) with Comments by the Site Survey by the Team

(Source: IEE Report (CEB) for Location, Land use, Comments by the Team)

Point Name: TT1	**Point Name: AP 4**
Location, Land use: By the side of Habarana - Maradankadawala main road at Palugaswewa. Open scrubland with scattered trees. Secondary dry monsoon forest North of the AP. **Survey comment:** It's necessary to discuss with Forest Department for the treatment of trees.	**Location, Land use:** Located in upland paddy fields. **Survey comment:** Main vegetation is grass land, there not many trees around AP. Position of AP1 ~ AP4 were determined tentatively. However, detailed survey of T/L route has not done yet. CEB shall consult with Forest Department mainly for the treatment of trees.
Point Name: AP 1	
Location, Land use: The AP is located on open grass land with few scattered trees. There is no need to cut any trees. Other land uses around the AP include scrubland, one house with upland paddy field, Less developed open home garden with scattered trees, open grassland with scattered trees and secondary monsoon forest.	
Point Name: AP 2	**Point Name: AP 5**
Location, Land use: Located inside the forest. Located on the left side of the railway line inside the forest area and some amount of clearing may be necessary for access purposes.	**Location, Land use:** The main land use is scrub forests. There are scattered trees around the AP.
Point Name: AP 3	**Point Name: AP 6**
Location, Land use: Located within scrubland on the left side of the railway track with scattered trees. The AP is about 100m away from the railway track. Scrub vegetation surrounds the AP.	**Location, Land use:** Located within scrubland on the left side of the railway track with scattered trees. The AP is about 100m away from the railway track. Scrub vegetation surrounds the AP. **Survey comment:** Environmental condition is expected to be similar as AP 9.
	

Point Name: AP 7	Point Name: AP 11
Location, Land use: Located close to Habarana railway station. The line crosses the main road and near by the station. Located in scrub forest.	**Survey comment:** The area is under dense dry monsoon forest and large trees were seen around the AP. The construction will cause moderate levels of impacts on the forest ecosystem and it is necessary to have proper mitigation measures to control erosion in rainy days. Appropriate technology should be used to construct hill top towers.
Point Name: AP 8	**Point Name: AP 12**
Location, Land use: Near to an army camp.Located in scrub forest. Scattered trees of Godakirala, Maila, Kohomba, Lolu and Burutha could be seen around the AP.	**Location, Land use:** Located in a scrub forest area behind, and the site is an abandoned chena land. More than 10 trees may have to be removed in the construction process.
Point Name: AP 9	**Point Name: between AP 12 and AP 13**
Location, Land use: Located in an area which consists of secondary dry monsoon forest and about 500 m from a gravel road. Few trees will have to be removed during the construction process. **Survey comment:** Grassland and secondary forest (natural or by planting) are mixed. There are various height of trees. There some trees planted for forestry by Forest Department.	**Location, Land use:** The transmission line crosses Halmilla Oya from AP 12 to AP 13. AP 12 is Located near the stream bank while AP 13 is located far away from the stream bank. **Survey comment:** Medium-trees scatter in grassland.
	
Point Name: AP 10	**Point Name: AP 13**
Location, Land use: Located in scrub forest and evidence revealed that site is an abandoned chena (slash-and-burn farming) land. More than 10 trees will have to be removed during the construction process.	**Location, Land use:** The area consists of scrub forest, behind human settlement and home gardens. Few Trees will have to be removed during construction.

Point Name: AP 14	Point Name: AP 17 and AP 18
Location, Land use: Located in secondary forest. The main land use is Eucalyptus forest plantation. **Survey comment:** Route between AP 14 and AP15 cross a road and take a detour route in order to avoid the hill. Located in secondary forest of mainly middle-low trees, there are also some tall trees. Further back is a deep forest	**Location, Land use:** Located in degraded forest. Few scattered trees need to be removed during the construction process. The transmission line crosses Alut Oyafrom AP 16 to AP 17. However, the towers are located far away from the stream banks. **Survey comment:** (AP17) While located in secondary forest of mainly middle-low trees, there are also some tall trees. Some trees are planted by Forest Department for forestry.
	(AP 17) 
Point Name: AP 15	**Point Name: AP 19**
Location, Land use: Located in dense forest and in a Eucalyptus plantation. The undergrowth has been cleared for security reasons.	**Location, Land use:** Site is scrub forest with rocky outcrops. There is an access road along the existing power line and same road could be used during the construction process. A few trees will need to be removed during the construction process.
Point Name: AP 16	(near) AP 19
Location, Land use: Located in dense forest and in a Eucalyptus plantation. The undergrowth has been cleared for security reasons. The transmission line crosses Aluth Oya from AP 16 to AP 17. However, the towers are located far away from the stream banks.	

Point Name: AP 20

Location, Land use:
The area consists of scrub forest with the adjoining forest being secondary dry monsoon forest.
Few trees will need to be removed during the construction.
The transmission line crosses the Yoda Ela from AP 20 to AP 21. However the towers are located far away from the stream banks.

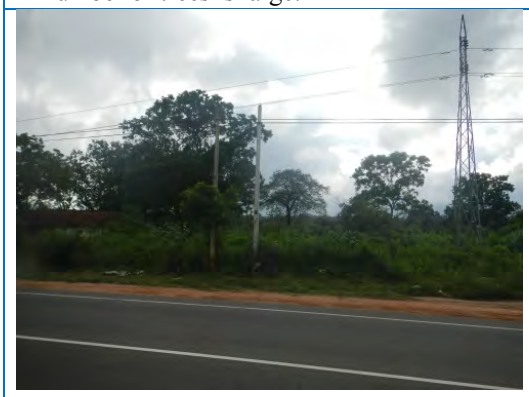
Survey comment:
Land around the AP is occupied mostly by secondary forest. There are a lot of underbrush also.

Point Name: AP 21

Location, Land use:
The area consists of scrub forest with the adjoining forest being secondary dry monsoon forest.
Few trees will have to be removed during the construction process area. The transmission line crosses the Yoda Ela from AP 20 to AP 21. However the towers are located far away from the stream banks.

Point Name: between AP 21 to AP 22

Survey comment:
AP and around AP is located in secondary forest, A number of trees is large.



Point Name: AP 22

Location, Land use:
Located in an area which consists of riverine forest with the adjoining forest being secondary dry monsoon forest.
Few trees have to be removed during the construction process.
The AP site is located close to Kithulaththa Ela.

Point Name: AP 23

Location, Land use:
Located within dense dry monsoon forest (secondary forest) behind human settlements and home gardens..
There is no direct access road to the site but the site could be access through home gardens.

Point Name: AP 24

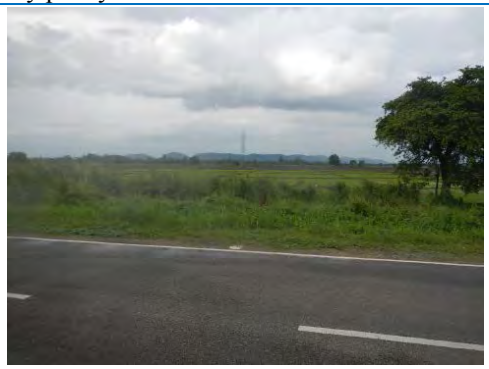
Location, Land use:
The AP is located near Kanthale Tank on the left side of the A26 road. The tank area is very open.

Survey comment:
Around the AP is secondary forest of moderate height trees.

Point Name: AP 25

Location, Land use:
Located on the right side of the Habarana – Trinkomalee main road, behind human settlements and home gardens after the powerline crosses the Habarana- Trincomalee main road.

Point Name: AP 26	Point Name: AP 28
Location, Land use: Located in a home garden in Agbopura A village road can be used to access the AP 26 site. There is a water supply scheme present nearby which provides drinking water on a limited scale. The powerline crosses a rural road. **Survey comment:** Scale of paddy field is not large, and there is a secondary forest so as to enclose the paddy field. Some of the trees must be cut.	**Location, Land use:** Located on a home garden. Village roads can be used to access the AP 28 site. **Survey comment:** The route is lead to the opened AP space through a dense forest land There is a need to build small access roads for construction. There is no residence.
	
Point Name: AP 27	**Point Name: AP 29**
Location, Land use: Located on a home garden in Agbopura. Village roads can be used to access the AP 27 site. **Survey comment:** Peripheral area is mostly paddy field. Route was designed to avoid impact on houses by allocating APs densely.（AP 24～AP 29）。	**Location, Land use:** AP 29 is reached after the power line crosses an irrigation channel and a road. The area is cultivated with paddy. Only few acres of land have been cultivated due to scarcity of irrigated water. Home gardens, which are less developed with a few coconut and fruit trees are found. Village roads can be used to access the AP site.
	

Point Name: between AP 29 and AP 30	Point Name: between AP 32 and AP 33
Survey comment: The rout crosses the 132kV transmission line.	**Survey comment:** The rout crosses the road. Around the AP site is only paddy field.
	
Point Name: AP 30	**Point Name: AP 33**
Location, Land use: Located on a paddy field being cultivated. The transmission line crosses the railway track on the Eastern side of the Kanthalai Tank A gravel road close to the paddy field can be used to access the AP site.	**Location, Land use:** Located on a paddy field. A village road can be used as an access road.
Point Name: AP 31	
Location, Land use: Located on a paddy field being cultivated. From AP 30 to AP 31 the power line crosses the existing 132 kV transmission line. A village road could be used to access the AP site.	
Point Name: AP 32	
Location, Land use: Located on a paddy field which is not under paddy cultivation at present. A gravel road close to the AP site can be used as an access road.	

Point Name: AP34	Point Name: AP36A
Location, Land use: Located on a paddy field and away from a house in Van Ela. Village roads could be used as access roads. **Survey comment:** Land use around is only paddy field.	**Location, Land use:** AP 36A is located on a paddy field in the Soorangal GND. The circular road will provide easy access to the AP site. **Survey comment:** Around the AP is almost paddy field. Middle-low trees scatter away from the road.
	
Point Name: AP 35	**Point Name: AP 36B**
Location, Land use: Located in upland un-cultivated paddy fields close to circular road. It is necessary to provide better access to the AP site.	**Location, Land use:** AP36 B 1s located on a paddy field in the Soorangal GND. **Survey comment:** This AP is located in wide paddy field.
Point Name: AP 36	
Survey comment: Planned area near AP 36A、AP 36B and planned route from AP 36 to AP 35 are included in the edge of Forest Reserves according to the map of Forest Reserve. However, according to the site survey, actual planned route only slightly pass Forest Reserve areas. Residences scatter near AP36. However the route was designed to avoid to touch houses.	
	

Point Name: AP 37

Location, Land use:
Located in a recently cleared chena area just outside dense scrub forest Here, the line is crossing the circular road. The AP site was easily accessible from the circular road. The transmission line crosses Upparu River from AP 37 to AP 38. However, the towers are located far away from the river banks.

Point Name: AP 38

Location, Land use:
Located in scrubland close to circular road, about 2 km from the Pachchanoor junction of circular road.

Survey comment:
The site is near the west side of the bridge of the Mahaweli river. Pond-like water bodies that were made by overflowing water from the river scatter. Most trees are shrub. Both side of before and after the bridge are wide paddy field.

Point Name: between AP 40 and AP 41

Survey comment:
Land use of both sides of the road is paddy field.

Point Name: between AP 38 and AP 39

Survey comment:
The site is in a flood area of the Mahaweli River. Because there was a lot of rain unlike ordinary year (date of survey: 11st December), the road was flooded 50cm in the deepest. The Team barely crossed the river on a four-wheel drive vehicle.

Point Name: AP 39

Location, Land use:
Located on a cultivated paddy field close to the circular road which could be used as an access road during the construction phase. The transmission line also crosses the Mahaweli River from AP 38 to AP 39.
However the towers are located away from the river banks.

Point Name: AP 40

Location, Land use:
Located on a paddy field, about 500 m from human settlement.

Point Name: AP 41

Location, Land use:
AP 41 is near Patchanoor and located on a paddy field and approximately 150m from the A15 road.

Point Name: AP 42

Location, Land use:
Located on a paddy field and approximately 150m from the A15 road.
Survey comment:
Most area around the AP is shrub and there is no paddy field. Water surface is not river but still water. There are some exposed rocks here and there.

Point Name: AP 43

Location, Land use:
Located on a paddy field near dense forest and can be accessed from the circular road.
Survey comment:
Transmission line route comes from over the forest (visible far away in the photo) and passes the paddy area. Both of the forest and paddy field may be affected by the project.

Point Name: AP 44

Location, Land use:
Located on a paddy field. The line Crosses a concrete road.
Survey comment:
Most land use around the AP is paddy field and glass land.
A part of paddy land is used by the project.

Point Name: AP45

Location, Land use:
Located on bare land near a forest area. AP 45 can be accessed via minor roads.
Survey comment:
The both side of the road are almost bare land or paddy field and scattered shrub.

Point Name: AP 46

Location, Land use:
Located on paddy fields near a minor tank. There are forests nearby.

Point Name: TT 2

Location, Land use:
Inside the Sampoor power plant location.
Located in an abandoned paddy field which is bare land at present.

Annex 11.3-1 JICA Environmental Checklist (For Power Transmission and Distribution Lines / Roads)

220 kV Sampoor – Kappalturai T/L

Category	Environmental Item	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
1 Permits and Explanation	(1) EIA and Environmental Permits	(a) Have EIA reports been already prepared in official process?	(a) N	(a) CEB will submit IEE report to PAA (Project Approving Agency, CEA) the end of September, 2015.
		(b) Have EIA reports been approved by authorities of the host country's government?	(b) N	(b) PAA will be expected to approve IEE report and to issue an official approval in October, 2015.
		(c) Have EIA reports been unconditionally approved? If conditions are imposed on the approval of EIA reports, are the conditions satisfied?	(c) N	(c) With regard to conditions on the approval of IEE report, CEB will confirm before submission of IEE Report.
		(d) In addition to the above approvals, have other required environmental permits been obtained from the appropriate regulatory authorities of the host country's government?	(d) NA	(d) Along with the confirmation of process (b), CEB will confirm those matters.
	(2) Explanation to the Local Stakeholders	(a) Have contents of the project and the potential impacts been adequately explained to the Local stakeholders based on appropriate procedures, including information disclosure? Is understanding obtained from the Local stakeholders?	(a) Y	(a) Contents of the project and the potential impacts have been adequately explained to the local stakeholders in the stakeholders meetings, and Local stakeholders understood them well.
		(b) Have the comment from the stakeholders (such as local residents) been reflected to the project design?	(b) Y	(b) The comments from affected persons were reflected into the Project design.
	(3) Examination of Alternatives	(a) Have alternative plans of the project been examined with social and environmental considerations?	(a) Y	(a) Multiple alternatives were examined in order to avoid or minimize adverse impacts. CEB has made all efforts, wherever line route is possible not to pass through residential areas, to keep the minimum involvement and to adopt shortest possible route.

2 Pollution Control	(1)Water Quality	(a) Is there any possibility that soil runoff from the bare lands resulting from earthmoving activities, such as cutting and filling will cause water quality degradation in downstream water areas? If the water quality degradation is anticipated, are adequate measures considered? (b)* Is there a possibility that surface runoff from roads will contaminate water sources, such as groundwater?	(a) Y (b) N	(a) There is a possibility that earthmoving activities cause soil runoff from the few bare lands. When earthmoving activities are done on the bare lands, clearing vegetation will be minimized and earth bunds will be built beside drainage channels to avoid overspill. Hold drainage water in sedimentation ponds to reduce the sediment content and by use of silt traps etc. prior to discharge to waterbodies. Accordingly, possibility of water quality degradation in downstream basin becomes very small. (b) There is almost no possibility that surface runoff from existing roads and temporal access roads. Contaminants included in the surface runoff are negligible.
3 Natural Environment	(1) Protected Areas	(a) Is the project site located in protected areas designated by the country's laws or international treaties and conventions? Is there a possibility that the project will affect the protected areas?	(a) N	(a) There is no National Park, Nature Reserve, Strict Natural Reserve, National Heritage and Wilderness Area in the project area and its surrounding.
	(2) Ecosystem	(a) Does the project site encompass primeval forests, tropical rain forests, ecologically valuable habitats (e.g., coral reefs, mangroves, or tidal flats)? (b) Does the project site encompass the protected habitats of endangered species designated by the country's laws or international treaties and conventions? (c) If significant ecological impacts are anticipated, are	(a) N (b) Y (c) Y	(For environmental impacts during pre-construction and construction stage) (a)The project site doesn't encompass primeval forests, tropical rain forests, ecologically valuable habitats. Transmission line routes have been designed not to encompass these areas. (b) Only a few endemic and threatened species of fauna and flora were identified in 200 m corridor of the Project area. This includes 7 species of endemic animals, and 4 species of plants. Three animal and 6 plant species that are listed as nationally threatened. This is the normal pattern habitats in the dry zone under influence of human activity which functions as repositories of common species rather than rare, endemic or threatened fauna. The individuals of threatened tree species are found in the nearby area so that their populations will not be affected due to a removal of few individuals. Therefore, the proposed project will not have a significant impact on threatened or endemic species or habitats that can be considered as critically important for conservation of biodiversity. (c) Around area of the transmission line route is used by Asian

		adequate protection measures taken to reduce the impacts on the ecosystem?		Elephants seasonally as evidenced by the secondary signs such as fecal droppings. At present the human-elephant conflict in the area is at a very low level. Elephants are large mammals with a home range that exceeds more than 5000 ha. Further, the proposed project will not affect the movement patterns of elephants in the area. Therefore, proposed project interventions will not have a significant impact on elephants. However, if necessary, proper strong fencing should be used to secure tower foundation areas during construction. Construction should avoid rainy season and complete rapidly. Construction is limited to daytime in forest area.
		(d) Are adequate measures taken to prevent disruption of migration routes and habitat fragmentation of wildlife and livestock?	(d) NA	(d) There may be no disruption of migration routes and habitat fragmentation of wildlife and livestock. No bird migratory routes and important bird habitats were reported in the existing literatures. Based on the avifauna (such as birds and bats) species assemblage observed along the transmission line route only few species were found to fly at the height at which the transmission line will be located.
		(e) Is there any possibility that the project will cause the negative impacts, such as destruction of forest, poaching, desertification, reduction in wetland areas, and disturbance of ecosystem due to introduction of exotic (non-native invasive) species and pests? Are adequate measures for preventing such impacts considered?	(e) Y	(e) There is a possibility that the Project will cause cutting/ removal of trees cutting/ removal of trees in the small part of forests. However, the number of trees cut/ removed are so small as 234. Adequate mitigation measure such as replanting or alternative planting will be planned.
		(f) In cases where the project site is located in undeveloped areas, is there any possibility that the new development will result in extensive loss of natural environments?	(f) N	(f) Although planned transmission line is long but area of affected space is not so large. Accordingly, execution of the Project will not result in extensive loss of natural environments.
3 Natural Environment	(3) Topography and Geology	(a) Is there any soft ground on the route of power transmission and distribution lines that may cause slope failures or landslides? Are adequate measures considered to prevent slope failures or landslides, where needed?	(a) N	(a) There is no soft ground on the route of power transmission line that may cause slope failures or landslides.

		(b) Is there any possibility that civil works, such as cutting and filling will cause slope failures or landslides? Are adequate measures considered to prevent slope failures or landslides?	(b) N	(b) The proposed transmission line is passing through mainly the flat terrain hence there is no direct impacts in terms of slope stability. In the past, landslides or earth slips have never been reported within the Project area and the area is stable at present.
		(c) Is there a possibility that soil runoff will result from cut and fill areas, waste soil disposal sites, and borrow sites? Are adequate measures taken to prevent soil runoff?	(c) Y	(c) There is a possibility that earthmoving activities cause soil runoff from a few transmission tower sites. When earthmoving activities are done, clearing vegetation will be minimized and earth bunds will be built beside drainage channels to avoid overspill. Excess soil after refilling of foundation could be disposed at a disposal site which is designated by the local authority to minimize soil erosion. Earth and sand using for construction are obtained from the licensed quarries /borrow pits where environmentally controlled.
		(d)* Where roads are newly installed, is there a possibility that the project will affect the existing means of transportation and the associated workers? Is there a possibility that the project will cause significant impacts, such as extensive alteration of existing land uses, changes in sources of livelihood, or unemployment? Are adequate measures considered for preventing these impacts?	(d) N	(d) Since newly installed access roads are temporal roads and are not long, there is no impact on the residents to existing means of transportation and the associated workers. There is also no possibility due to newly installed access roads that the Project will cause significant impacts, such as extensive alteration of existing land uses, changes in sources of livelihood, or unemployment.
4 Social Environment	(1) Resettlement	(a) Is involuntary resettlement caused by project implementation? If involuntary resettlement is caused, are efforts made to minimize the impacts caused by the resettlement?	(a) N	(a) There is no house within 35m corridor (within ROM). of the proposed transmission line. Accordingly, both land acquisition and involuntary resettlement are unnecessary for development of the Project.
		(b) Is adequate explanation on compensation and resettlement assistance given to affected people prior to resettlement?	(b) NA	(b) Not applicable.
		(c) Is the resettlement plan, including compensation with full replacement costs, restoration of livelihoods and living standards developed based on socioeconomic studies on resettlement?	(c) NA	(c) Not applicable.
		(d) Are the compensations going to be paid prior to the	(d) NA	(d) Not applicable.

		resettlement? (e) Are the compensation policies prepared in document? (f) Does the resettlement plan pay particular attention to vulnerable groups or people, including women, children, the elderly, people below the poverty line, ethnic minorities, and indigenous peoples? (g) Are agreements with the affected people obtained prior to resettlement? (h) Is the organizational framework established to properly implement resettlement? Are the capacity and budget secured to implement the plan? (i) Are any plans developed to monitor the impacts of resettlement? (j) Is the grievance redress mechanism established?	(e) NA (f) NA (g) NA (h) NA (i) NA (j) NA	(e) Not applicable. (f) Not applicable. (g) Not applicable. (h) Not applicable. (i) Not applicable. (j) Not applicable.
	(2) Living and Livelihood	(a) Is there a possibility that the project will adversely affect the living conditions of inhabitants? Are adequate measures considered to reduce the impacts, if necessary? (b) Is there a possibility that diseases, including infectious diseases, such as HIV will be brought due to immigration of workers associated with the project? Are adequate considerations given to public health, if necessary? (c) Is there any possibility that installation of structures, such as power line towers will cause a radio interference? If any significant radio interference is anticipated, are adequate measures considered? (d) Are the compensations for transmission wires given in accordance with the domestic law? (e)* Where roads are newly installed, is there a possibility that the project will affect the existing means of transportation and the associated workers? Is there a possibility that the project will cause significant impacts, such as extensive alteration of existing land uses,	(a) N (b) Y (c) N (d) Y (e) N	(a) There is no factor in the Project activities which adversely affect the living conditions of inhabitants. (b) In construction stage, there is the possibility that infectious diseases, such as HIV, will be brought due to the migration of construction workers. Mitigation measures are described in “5. Others (1) Impacts during construction”. (c) Since there isn’t a single house underneath the 35m width corridor of the transmission line and towers are installed far from living places, there is almost no possibility that any electromagnetic interference occurs. (d) The compensations for transmission wires given in accordance with domestic law, Electricity Act. (e) There is no impact on the residents to existing means of transportation and the associated workers by newly installed access roads. There is also no possibility that the Project will cause significant impacts, such as extensive alteration of existing land uses,

		changes in sources of livelihood, or unemployment? Are adequate measures considered for preventing these impacts? (f)* Is there any possibility that the project will adversely affect road traffic in the surrounding areas (e.g., increase of traffic congestion and traffic accidents)? (g)* Is there any possibility that roads will impede the movement of inhabitants?	 (f) Y (g) N	changes in sources of livelihood, or unemployment. (f) There is a possibility that the Project will adversely affect road traffic in the surrounding areas during construction. Mitigation measures are described in "5. Others (1) Impacts during construction". (g) There is no possibility that temporal access roads will impede the movement of inhabitants, Temporal access roads will be removed after construction activities.
4 Social Environment	(3) Heritage	(a) Is there a possibility that the project will damage the local archeological, historical, cultural, and religious heritage? Are adequate measures considered to protect these sites in accordance with the country's laws?	(a) N	(a) None of historical, cultural, nor religious heritage are found in the transmission line corridor of 35 m ROW or the area of 100 m either side of the line.
	(4) Landscape	(a) Is there a possibility that the project will adversely affect the local landscape? Are necessary measures taken?	(a) N	(a) There is no landscape element to need special consideration.
	(5) Ethnic Minorities and Indigenous Peoples	(a) Are considerations given to reduce impacts on the culture and lifestyle of ethnic minorities and indigenous peoples? (b) Are all of the rights of ethnic minorities and indigenous peoples in relation to land and resources respected?	(a) Y (b) Y	(a) There is no activity within the Project site that would particularly affect the culture and lifestyle of ethnic minorities and indigenous peoples.) (b) All of the rights of ethnic minorities and indigenous peoples in relation to land and resources have been respected in the Project.
	(6) Working Conditions	(a) Is the project proponent not violating any laws and ordinances associated with the working conditions of the country which the project proponent should observe in the project? (b) Are tangible safety considerations in place for individuals involved in the project, such as the installation of safety equipment which prevents industrial accidents, and management of hazardous materials?	(a) Y (b) Y	(a) CEB and the contractor shall be not violating the regulations in Sri Lanka that covers working conditions, the welfare of workers and safety and health. (b) -During construction period, tangible safety considerations (installation of safety equipment which prevent working accidents, physical zoning for of safety work area, etc.) should be taken in place for individuals involved in the Project. Tangible safety measures should be taken as follows. - Work around high-voltage power line and transportation of heavy machineries should be done under monitoring by safety

		(c) Are intangible measures being planned and implemented for individuals involved in the project, such as the establishment of a safety and health program, and safety training (including traffic safety and public health) for workers etc.?	(c) Y	management supervisor of the contractor. (c) Intangible safety measures should be taken as follows. - The contractor should prepare safety and health management plan, including traffic safety, accident prevention and public sanitation, safe handling and management of any dangerous and hazardous materials, etc. according to the regulations relating to working conditions. - The contractor should conduct educational training of safety, health and public sanitation to its workers and staffs.
		(d) Are appropriate measures taken to ensure that security guards involved in the project not to violate safety of other individuals involved, or local residents?	(d) Y	(d) The contractor should implement proper and strict management and education of guards not to infringe safety and security of residents, staff and workers.
5 Others	(1) Impacts during Construction	(a) Are adequate measures considered to reduce impacts during construction (e.g., noise, vibrations, turbid water, dust, exhaust gases, and wastes)?	(a) Y	(a) a1) Noise and vibrations (generated by construction vehicles and heavy machineries) - Maintenance of vehicles and heavy machineries is improved sufficiently and operate them on low-noise/ vibration condition. - Consideration and restriction of working time in the morning and at night. a2) Air pollution (caused by transportation vehicles and heavy machineries) - Use good quality fuel and oil for vehicles and heavy machineries. a3) Water Pollution - Hold turbid drainage water in sedimentation ponds to reduce the sediment content and by use of silt traps etc. prior to discharge to waterbodies. - Construction vehicles and heavy machineries shall be used so as not to leak oil. Waste oil is disposed of safely in storage. a4) Wastes - Construction waste and waste from worker's camp shall be collected, segregated, properly reused and recycled according to regulations and rules of local government. Then all remained waste will be disposed to disposal site designated by local authority, without causing visual or leachate pollution or hazards

		(b) If construction activities adversely affect the natural environment (ecosystem), are adequate measures considered to reduce impacts? (c) If construction activities adversely affect the social environment, are adequate measures considered to reduce impacts?	(b) Y (c) Y	to other users. - The contractor shall provide education and enlightenment for above activities (decreasing quantity, segregation, reuse and recycling) to workers. - Remaining sand and soil should be backfilled in principle. (b) Environmental considerations for this check item is shown in "3 Natural Environment, (2) Ecosystem" (c) c1) Traffic congestion and traffic access failure - Public notice prior related to temporary traffic congestion. - If necessary, time shift of activities of construction or operation of transport vehicles. c2) Public health and sanitation - Mobile temporary toilets will be installed for construction workers, if necessary. c3) Infectious diseases There is the possibility that infectious diseases, such as HIV, will be brought due to the immigration of construction workers. Mitigation measures are as follows. - HIV education for construction workers and residents - Regional workers will be hired preferentially as much as possible. c4) Accidents (relating to construction vehicles and heavy machineries or construction activities) - Notify the construction plan (details of construction works, schedule and place) to the residents of the areas around the construction sites. - Putting up a notice about the details above on the adequate public notification sites. - Clarification of the boundaries of the construction areas with rope, fences, and other means.
	(2) Monitoring	(a) Does the proponent develop and implement monitoring program for the environmental items that are considered to have potential impacts?	(a) Y	(a) CEB developed the monitoring program. CEB implements the program from the start of the pre-construction works. (b) In the monitoring program, the items, methods and

		(b) What are the items, methods and frequencies of the monitoring program? (c) Does the proponent establish an adequate monitoring framework (organization, personnel, equipment, and adequate budget to sustain the monitoring framework)? (d) Are any regulatory requirements pertaining to the monitoring report system identified, such as the format and frequency of reports from the proponent to the regulatory authorities?	(b) Y (c) Y (d) Y	frequencies and other relevant details are described. (c) CEB established the monitoring framework (team, responsible person, budget, etc.) to sustain the monitoring program. (d) The PAA (Project Approving Agency) must make a plan to monitor the Project and must submit the plan to CEA with the report provided by the proponent. However any detailed regulatory requirements pertaining to the monitoring report system are not identified by PAA. Usually, the proponent can identify items/requirements pertaining to the monitoring report system.
6 Note	Reference to Checklist of Other Sectors	(a) Where necessary, pertinent items described in the Road checklist should also be checked (e.g., projects including installation of electric transmission lines and/or electric distribution facilities).	(a) Y	(a) Because the Project includes the construction of access roads for access to the Project site or for transportation of materials and equipment, pertinent items described in the Road checklist were also be checked. Added items are shown as ( )* in Main Check Items.
	Note on Using Environmental Checklist	(a) If necessary, the impacts to transboundary or global issues should be confirmed, (e.g., the project includes factors that may cause problems, such as transboundary waste treatment, acid rain, destruction of the ozone layer, or global warming).	(a) Y	(a) In the Project, by reduction of power loss in transmission network, suppression of greenhouse gas emission due to the transmission loss can be expected. Accordingly, for the Project it can be expected that greenhouse gas emission is reduced.

1) Regarding the term “Country's Standards” mentioned in the above table, in the event that environmental standards in the country where the project is located diverge significantly from international standards, appropriate environmental considerations are required to be made.
In cases where local environmental regulations are yet to be established in some areas, considerations should be made based on comparisons with appropriate standards of other countries
(including Japan's experience).

2) Environmental checklist provides general environmental items to be checked. It may be necessary to add or delete an item taking into account the characteristics of the project and the particular circumstances of the country and locality in which it is located.

Annex 11.3-2 220 kV T/L Monitoring Form

1． Responses/Actions to Comments and Guidance from Government Authorities and the Public

Monitoring Item	Monitoring Results during Report Period
Responses/Actions to Comments and Guidance from Government Authorities	

2． Mitigation Measures

- Air Quality（Ambient Air Quality） during Construction Stage

Item	Unit	Measured Value (Mean)	Measured Value (Max.)	Country's Standards*	Referred International Standards**	Remarks (Measurement Point, Frequency, Method, etc.)
SO_2	$\mu g/m^3$			80 (24 hrs.)	20 (24 hrs.)	
NO_2	$\mu g/m^3$			100(24 hrs.)	200 (1 hr)	
CO	$\mu g/m^3$			10,000 (8hrs.)	10,000 (1 hr)	
PM_{10}	$\mu g/m^3$			100 (24 hrs.)	50 (24 hrs.)	

Note: *Maximum permissible value, ** WHO Guidelines

- Water Quality（Ambient Water Quality） during Construction Stage

Item	Unit	Measured Value (Mean)	Measured Value (Max.)	Country's Standards*	Referred International Standards	Remarks (Measurement Point, Frequency, Method, etc.)
pH	-			-		
SS	ppm			-		
BOD/	ppm			-		
Turbidity	NTU			-		
Oil & Grease	ppm			-		

Note: * Ambient water quality standards are not established in Sri Lanka.

- Waste during Construction Stage

Monitoring Item	Monitoring Results during Report Period
Waste from construction site and workers camp	

- Ambient Noise Quality during Construction Stage

Item	Unit	Measured Value (Mean)	Measured Value (Max.)	Country's Standards	Referred International Standards	Remarks (Measurement Point, Frequency, Method, etc.)
Noise level	dB(A)			Rural residential area -55(day time), -45(night time)		

３． Natural Environment

- Ecosystem

Monitoring Item	Monitoring Results during Report Period
Conservation condition of Protected Area (three Forest Reserves and one Conservation Forest Reserve	
Soil erosion/destabilization of soil	
Flora - Impacts on endangered species	
Progress of cutting/removal of trees in Forest	
Fauna - Disturbance to migration route of elephant	

４． Social Environment

- Compensation

Monitoring Item	Monitoring Results during Report Period
Compensation for cutting/removal of trees in home garden	
Compensation for land use restriction of paddy land due to construction of tower footings and access roads	

- Living / Livelihood

Monitoring Item	Monitoring Results during Report Period
Temporary traffic congestion	
Health and sanitation conditions (drinking water and sanitation facilities)	
Infectious diseases such as HIV/AIDS	
Traffic accidents	
Working condition including worker's safety	

Annex 11.3-3 (1) Description of habitats along the transmission line Sampoor- Kappalturai 220 kV transmission line

Angle Point No.	Coordinates		Village Name	Distance between angle points (m ± 12)	Land use/ Habitat	Remarks	Plates
	N	E					
Sampoor land / TT1	8.474449	81.31583	Sampoor	0	Scrublands, abandoned paddy fields	The extent of land allocated for the Sampoor GSS is 8.4 ha. This land is situated within the land earmarked for the Sampoor coal power station. The GSS land is found towards the southern boundary of the coal power plant land	Plate 1-9
1	8.472495	81.31799	Sampoor	323	Abandoned paddy fields/ Scrublands	The angle point 1 is located in an abandoned paddy field about 323m from the terminal tower 1.	Plate 10-14
2	8.462738	81.31628	Sampoor	1095	Degraded land/ scrublands	The angle tower located in a degraded land next to the gravel road towards Illaknathai from Sampoor. Now this land belongs to a land owner in the village. This land was occupied by the Navy during the war.	Plate 15-20
3	8.455031	81.30776	Seethanavalley	1268	Paddy fields	This angle point also located in a uncultivated paddy land near the village Seethanavalley, constructed after the war. A tank bund can be seen from this point. The line crosses the tank bund beforee reaching AP 3.	Plate 21-24
4	8.441526	81.3091	Sinnakulam	1501	Paddy fields	Angle point 4 also in a uncultivated paddy land near Sinnakulam village about 205m from the ring road (towards Illakkanthai). This road was constructed by the Army in 2007, and it is a gravel road	Plate 25- 29
5	8.423569	81.29038	Thangapuram	2862	Scrublands/ borrow site	This angle point also located about 90 m from the ring road in a edge of a soil excavated area near Thangapuram village	Plate 30-31
5A	8.42181	81.28102	Pallikodiruppu	1049	Rock out crop	This angle point 5A was introduced later to avoid the Thangapuram village, where new houses are constructed at present. The location of angle point is on a rock outcrop about 100 m from the ring road. A metal quarry is operating about 300m behind this angle point.	Plate 32
5B	8.41687	81.27598	Kinnadimunai	779	Paddy field/ brick making site	This is found in a uncultivated paddy field where brick making take place. The line crosses the ring road to reach AP 5B. The angle tower location is about 80 m from the ring road.	Plate 33-35
6	8.412938	81.26754	Pachchanoor	1026	Abandoned paddy field/ brick making	This is located in an abandoned paddy land very close to the ring road (30 m from the road). The	Plate 36-46

					site	transmission line cross the ring road again before reaching the AP 6. This area also used for brick making. The distance to the Trinco- Batticaloa main road from this angle point is about 250 m.	
7	8.410966	81.24445	Saradhachenai	2552	Paddy fields	This angle point is situated in a cultivated paddy field. These paddy fields are irrigated by the Vedhativu anicut of Valavachar Aru. The angle tower is located about 150 from the ring road.	Plate 47-59
8	8.428408	81.20884	Kandalkadu	4371	Scrublands near Mahaweli river	AP 8 is located in a scrubland about 720 m from the left bank of Mahaweli river. Sand stock piling areas can be seen around the this angle point. This angle point is about 280 m from the ring road.	Plate 60-69
9	8.437353	81.16719	Kandalkadu	4592	Paddy field/ mangrove area nearby	This angle point is located in uncultivated paddy land near a mangrove patch next to the ring road, 80 m from the road. A branch of Uppu Aru and the bridge across the river is found nearby, about 80 m from the AP 9. The transmission line crosses the ring road before reaching AP 9.	Plate70-74
10	8.44884	81.15385	Naduthivu	1942	Paddy field	This angle point also located in uncultivated paddy land near Naduthivu village, about 60 m from the ring road	Plate 75-78
11	8.456239	81.15299	Naduthivu	824	Homesteads	AP 11 is found in a paddy land behind Naduthivu village towards a seasonal tank (Naduthivu kulam) about 185 m from the houses. The angle point is located about 50 m from the ring road. The line crosses the ring road before reaching the AP 11.	Plate 79-88
12	8.466163	81.12804	Navacholai Kalladi	2958	Paddy field/ Soorangal area	This angle point is in a cultivated paddy field at the end of ring road. The ring road was not constructed from this point onwards. The line crosses Mullipotana- Soorangal main road before reaching the AP 12. The angle point is located about 1.5 km from this road.	Plate 89-93
13	8.483002	81.11429	Kutambuli, Paddymedu	2401	Paddy field	This is also found in a cultivated paddy field in Paddymedu village. This angle point is close to a home garden and about 6 coconut tree are found within 17.5 m from the centerline. These coconut trees have to be removed for the construction of transmission line. The line crosses Tambalagamuwa- Kinniya main road before reaching the AP 13.	Plate 94-99
14	8.491743	81.11223	Kallimedu	993	Paddy field	Angle point 14 is found in a cultivated paddy field	Plate 100

15	8.510663	81.11098	Paththnipuram	2097	Abandoned paddy field near the existing 132 kV line	AP 15 is located in uncultivated/ abandoned paddy land next to the existing 132 kV transmission line close to the Paththinipuram vilage. The mangrove forest at Tambalagam bay is about 520 m from the angle point. The closest point to the mangrove patch from the transmission line is about 60 m.	Plate 101-106
16	8.534488	81.12434	Mutthunagar	3018	Abandoned paddy field	This is also found in uncultivated paddy land neat Muthunagar village. The line crosses Palampoddaru Aru before reaching AP 16.	Plate 107-108
17	8.540274	81.12437	Muthunagar	640	Scrubland neat Muthu nagar	AP 17 is located in a scrubland close to the elephant fence of Muthunagar village which is about 200m from the angle tower.	Plate 109-116
TT2	8.548657	81.13012	Kappalturai	1142	Teak plantation, Kappalturai boundary to the A6 main road to Trincomalee	Terminal Tower 2 is found in the land allocated for the Kappalturai GSS.	Plate 117
GSS land- Kappalturai					Teak plantation, Kappalturai	The extent of the Kappalturai GSS land is 6.4 ha. This is a degraded teak plantation established by the Forest Department. In addition to elephant damaged teak trees, other indigenous dry zone tree species such as Welan, Wira, Dikwenna, Mahaandara, Ketakela, Kon, Milla, Madan, Palu, Godakirilla and Karaw are found in this land.	Plate 118-126
Total				37.433			

Annex 11.3-3 (2) Photographs of land use and habitats along the proposed transmission line from Sampoor to Kappalturai (8th, 9th and 10th August 2015)

Plate 1. The study team and JICA study team at Sampoor GSS site

Plate 2. Sampoor GSS land, 160 m wide and 525 m in length, (8.4 ha- 20.75 acre), a single Palmyra tree is in the middle of the land

Plate 3. Sampoor GSS land, open area with scattered shrubs and trees

Plate 4. Sampoor GSS land, some area of the land covered by scrublands

Plate 5. Sampoor GSS land

Plate 6. Sampoor GSS land

	
Plate 7. Sampoor GSS land, fence and access road	Plate 8. Sampoor GSS land
	
Plate 9. Sampoor GSS land access road	Plate 10. Angle Point 1 in the paddy field in front of GSS land, the tower base is close to the Siyambala (*Tamarindus indicus*)tree in the photograph
	
Plate 11. The transmission line path from AP 1 towards AP 2, a Palmyra and Banyan tree on the path of the line	Plate 12. The habitat between AP 1 and AP 2 is scrublands with few trees.

Plate 13. Scrublands between AP 1 and AP 2

Plate 14. Scrublands between AP 1 and AP 2

Plate 15. Angle point 2 is on a private land, previously occupied by the Navy. The fence constructed by the Navy can be seen in the background.

Plate 16. The big tree (Ficus sp.) in the background of the photo is on the transmission line path between AP 1 and AP 2. This tree is found in the scrubland.

Plate 17. Line crosses the Sampoor to Ilakkanthai road between AP 2 and AP 3.

Plate 18. The crossing point of the road, few trees nearby

Plate 19. The transmission line path towards AP 3 through paddy fields

Plate 20. The line crosses a bund of a seasonal tank near, Seethanavalley village, between AP2 and AP 3.

Plate 21. AP 3 is on a paddy field near Seethanavalley housing scheme (the distance is about 300 m to the transmission line from the village), the line crosses a bund of a small tank between AP 2 and AP 3.

Plate 22. The transmission line path is close to the two Palmyra trees in the background (towards right),

Plate 23. Towards AP 4

Plate 24. Towards AP 4

	
Plate 25. AP 4 in a paddy filed, about 200 m, left side of the ring road, Sinnakulam	Plate 26. AP 4 in a paddy field
	
Plate 27. AP 4 is located close to the gravel road in the background left of Siyambala tree (*Tamarindus indicus*, light green colour tree)	Plate 28. Towards AP 5
	
Plate 29. The ring road start from Soorangal (Mullipotana- Surangal road) and ending at Illakanthai. The angle points 4 to 12 are located either side of the road.	Plate 30. AP 5 in a borrow site, about 85 m from the ring road, Thangapuram

	
Plate 31. AP 5 in a edge of a borrow site, about 85 m from the ring road, Thangapuram	Plate 32. Angle point 5A is located on a rock outcrop, about 90 m from the ring road, Pallikudiruppu
	
Plate 33. AP 5B in a paddy field/ near brick making site, , Kinandimunai , about 70 m from the ring road, the line crosses the ring road before reaching the AP 5B	Plate 34. AP 5B in a paddy field/ near brick making site
	
Plate 35. The line towards AP 6, it crosses the ring road (gravel road) to reach AP 6	Plate 36. AP 6 in an abandoned paddy field/ brick making site, about 35 m from the ring road, the line crosses the ring road before reaching the AP 6.

	
Plate 37. AP 6 in an abandoned paddy field, Iruthayapuram, Pachchanoor, close to the Trincomalee- Muthur- Batticaloa main road	Plate 38. The line path towards AP 5 direction from AP 6, line crosses the ring road at this point (coordinates: 08.41335, 81. 26846)
	
Plate 39. AP 6 is close to the ring road which connects the Trincomalee- Batticaloa main road (A15)	Plate 40. The line path through paddy fields after crossing the Trincomalee- Batticaloa road
	
Plate 41. Transmission line crosses Trincomalee- Muthur- Batticaloa road (coordinates: 08.412717, 81.264962)	Plate 42. Line crosses ring road (gravel road) before reaching the AP 6

	
Plate 43. Transmission line path after crossing the Muthur- Batticaloa road, towards AP 7	Plate 44. The line passes through paddy fields between AP 6 and AP 7.
	
Plate 45. The line crosses the irrigation canal before reaching the AP 7 (Coordinates: 08.411494, 81. 250723)	Plate 46. The transmission line crosses the irrigation canal between AP 6 and AP 7, and the distance to the line from the Vedhativu anicut is about 60 m, built in 1976
	
Plate 47. Angle point 7 in a paddy field, about 130 m from the ring road, Saradhachenai	Plate 48. Angle point 7 in a paddy field, about 130 m from the ring road, Saradhachenai

	
Plate 49. Paddy fields between AP 7 and AP 8	Plate 50. Paddy fields between AP 7 and AP 8
	
Plate 51. Sand stock piling area near Mahaweli river, between AP 7 and AP 8	Plate 52. Sand stock piling area near the Mahaweli river
	
Plate 53. Forest Department boundary markers are found along the ring road demarcating forest patches belong to the Muthur Govt. forest	Plate 54. Tall trees are found between AP 7 and AP 8 on the banks of Mahaweli river.

	
Plate 55. Mahaweli river (Uppu Aru) between AP 7 and AP 8	Plate 56. Mahaweli river between AP 7 and AP 8, the bridge on the ring road is in the background of the photo
	
Plate 57. Mahaweli river between AP 7 and AP 8	Plate 58. Flood plains of Mahaweli river, the bridge on ring road is in the background
	
Plate 59. The stretch of river section without water (August 2015), between AP 7 and AP 8	Plate 60. Angle point 8 in a scrubland near Mahaweli river, about 275 m from the ring road

	
Plate 61. Location of angle point 8	Plate 62. Scrubland habitat at the angle point 8
	
Plate 63. Scrublands in the surrounding area of AP 8	Plate 64. Scrublands in AP 8 area
	
Plate 65. The line crosses the ring road about 900 m from the AP 8 (coordinates: 08.430169, 81.200606)	Plate 66. The line crosses a branch of Mahaweli river between AP 8 and AP 9, about 2.7 km from AP 8

	
Plate 67. The bridge on the ring road across Mahaweli river, about 600 m to the transmission line from the bridge	Plate 68. The line passes through paddy fields between AP 8 and AP 9
	
Plate 69. The line passes through paddy fields between AP 8 and AP 9	Plate 70. AP 9 is located in Kandankadu, near a bridge (Wadasai aru) of the ring road, in a paddy field, about 70 m from the ring road near a bridge
	
Plate 71. Angle point 9 is close to a mangrove habitat	Plate 72. Towards AP 9 from the ring road

	
Plate 73. Mangrove habitat on the river bank can be seen close to the AP 9.	Plate 74. The area between AP 9 and AP 10
	
Plate 75. Angle point 10 in a paddy field, Naduvuthu, Kinniya	Plate 76. Angle point 10
	
Plate 77. The trsansmission line path towards AP 11	Plate 78. The trsansmission line path towards AP 12

	
Plate 79. AP 11 in a paddy field Naduvuthu	Plate 80. AP 11 in a paddy field Naduvuthu
	
Plate 81. Towards AP 10 from AP 11, the gravel road to Naduvuthu village is in the background	Plate 82. Towards AP 12 from AP 11
	
Plate 83. Towards AP 12, the line crosses the ring road between AP 11 and AP 12 (coordinates: 08.456071, 81.152402)	Plate 84. Transmission line path towards AP 12

	
Plate 85. Towards AP 12 through paddy lands	Plate 86. Angle point 12 is in a paddy field, other side of the Soorangal road
	
Plate 87. Line path towards AP 11 from the main road to Soorangal, Kalkuli village	Plate 88. The transmission line crosses Mullipotana-Soorangal road at this point (coordinates: 08. 461142, 81.140156), Kalkuli village near 12 km post
	
Plate 89. Angle point 12 is in the paddy field, Soorangal	Plate 90. The end of the ring road after the damaged bridge at Mullipotana- Soorangal road

	
Plate 91. The transmission line crosses the Tambalagamuwa- Kinniya road	Plate 92.The transmission line crosses the Tambalagamuwa- Kinniya road
	
Plate 93. The transmission line path towards AP 12 from the AP 13, the line crosses Thampalagama-Kinniya road (coordinates: 08.478157, 81.118236)	Plate 94. Angle point 13 is in a paddy field, Kutambuli, about 60 m from the road that connects to the Thambalagamuwa- Kinniya road.
	
Plate 95. Angle point 13 is in a paddy field, Kutambuli	Plate 96. The line path towards AP 14, in front of Saratha Vidyalaya, the transmission line crosses this road in two places, this road connects to the Thambalagamuwa- Kinniya road

	
Plate 97. Coconut trees found in the RoW in a home garden near AP 13.	Plate 98. The line path towards AP 14, in front of Saratha Vidyalaya
	
Plate 99. The line crosses the Parathipuram road towards AP 14 (coordinates: 08.484002, 81.114048) and passes in front of Saratha vidyalaya, Paddymedu, Thampalagamam	Plate 100. Angle point 14 in a paddy field, Kallimedu
	
Plate 101. Angle point 15 in an abandoned paddy field close to the existing 132 kV transmission line, about 110 m from the line	Plate 102. Line path towards AP 16 through abandoned paddy lands

	
Plate 103. Line path towards AP 15 from the road to Paththinipuram	Plate 104. Line path towards AP 16, through, Paththnipuram paddy lands
	
Plate 105. Line path towards AP 16 from the crossing point (coordinates: 08.526839, 81.119956) of the road to Paththnipuram anicut	Plate 106. Line path towards AP 16
	
Plate 107. Angle point 16 in Mutthunagar, in a paddy field, about 720 m from the existing transmission line	Plate 108. Line path towards angle point 16

	
Plate 109. Angle point 17 in Mutthunagar, in a scrubland next to Mutthunagar village, railway line is in the background.	Plate 110. The line path towards AP 16 from angle point 17
	
Plate 111. The line passes through a small tank between AP 16 and AP 17.	Plate 112. The transmission line crosses the railway line between AP 17 and TT2
	
Plate 113. Elephant fence near Muthunagar village, close to the AP 17	Plate 114. GSS land (300x 225 m, 6.8 ha) is in a Teak plantation/ degraded dry-mixed evergreen forest bordering the Trincomalee main road (A6)

	
Plate 115. Teak trees damaged by the elephants and indigenous tree species in the GSS land	Plate 116. Degraded teak plantation
	
Plate 117. Location of terminal tower 2 (TT2) in the teak plantation	Plate 118. Sampling of trees in teak plantaion
	
Plate 119. Counting the number of trees in a sample plot	Plate 120. Teak and indigenous tree species

	
Plate 121. Teak and indigenous tree species	Plate 122. The GSS land bordering the Habarana-Trinco A6 road (300 m along the road x 225 m towards the teak plantation)
	
Plate 123. GSS land name board, CEB	Plate 124. Several indigenous trees are found in the GSS alnd along the A6 main road
	
Plate 125. The GSS land from A6 road	Plate 126. Name board of the GSS land, Kappalturai

Annex 11.3-3 (3) Angle point coordinates, distance between angle points, number of angle towers, terminal towers and suspension towers of 220 kV transmission line (37.4 km) from Sampoor GSS to Kappalturai Grid Substation

Angle point/ TT	N	E	Distance between angle points (m)	No. of angle towers	No. of suspension towers
TT1 Sampoor GSS	8.474449	81.31583	323	1	-
AP1	8.472495	81.31799	1095	1	2
AP2	8.462738	81.31628	1268	1	3
AP3	8.455031	81.30776	1501	1	4
AP4	8.441526	81.3091	2862	1	8
AP5	8.423569	81.29038	1049	1	3
AP5A	8.42181	81.28102	779	1	2
AP5B	8.41687	81.27598	1026	1	3
AP6	8.412938	81.26754	2552	1	7
AP7	8.410966	81.24445	4371	1	11
AP8	8.428408	81.20884	4692	1	12
AP9	8.437353	81.16719	1942	1	5
AP10	8.44884	81.15385	824	1	1
AP11	8.456239	81.15299	2958	1	6
AP12	8.466163	81.12804	2401	1	6
AP13	8.483002	81.11429	993	1	1
AP14	8.491743	81.11223	2097	1	6
AP15	8.510663	81.11098	3018	1	7
AP16	8.534488	81.12434	640	1	1
AP17	8.540274	81.12437	1142	1	3
TT2 Kappalturai GSS	8.548657	81.13012		20	91

Annex12.2-1 Summary of EIA Report for Trincomalee Thermal Power Project (January, 2015)

1) Summary of EIA for Sampoor Coal-fired Power Plant

Significant impacts and their mitigation measures for construction and operation phases of are examined in EIA report. Summary of EIA for Sampoor coal-fired power plant is summarized in Table 1

Table 1 Summary of Significant Impacts and Mitigation Measures on Sampoor Power Plant

Environmental Item		Stage (C/O)	Identified Impacts	Severity of Impacts Before Mitigation	Factor of environment impacts	Mitigation measurements (if necessary)
Pollution Control						
1	Air pollution	C	- Dust and exhaust gas from construction vehicle, equipment & machinery	M(-)	- Operation of heavy equipment / vehicles, traffic jam incidental to construction	- Sprinkling of water
					- Site clearing and Leveling	- Maintenance of Roads and Vehicles
		O	- Change in air quality due to stack emissions	H(-)	- Combustion of coal - Operation of thermal power plant	- Selection of coal, Efficiency of plant, Furnace Design, ESP, FGD, Tall Stack
			- Change in air quality due to Fugitive emissions	L(-)	- Combustion of coal	- DE/DS systems, wind barriers, water sprinkling
2	Noise and Vibration	C	- Increase in noise	M(-)	- Operation of the heavy equipment /vehicles	- Maintenance of Vehicles and Equipment, Regulating activities, Use of PPE
			- Increase in vibration	L(-)	Operation of the heavy equipment /vehicles	- Control and Surveillance, Regulating activities
		O	- Increase in noise	L(-)	- Operation of thermal power plant/facilities	- Design of equipment and acoustic covers, PPE, Design of Buildings, Green Belt
3	Water pollution	O	- Change in Surface and Ground Water Quality	L(-)	- Discharge from thermal power plant	- Treatment, recycle and reuse of effluents
						- Disposal in sea along with warm water
			- Impacts of warm water discharge	M(-)	- Discharge from thermal power plan	- Proper location and design of structures
			- Impacts of Discharge of effluents	L(-)	- Discharge from thermal power plant	- Treatment, Dilution with Cooling water
			- Impacts of Oil spills/ coal pile run-off	L(-)	- Operation of thermal power plant	- Containment and Treatment
4	Coastal Stability and Sdimentation	C	- Change in coast line	L(-)	- Construction activities on sedimentation	- Proper design of structures
		O	- Change in coast line	L(-)	- Existence of Offshore Structures and Pipelines	- Proper design of structures
Natural Environment						
5	Terrestrial Fauna, Flora and Ecosystem	C/O	- Loss of Habitat	L(-)	- Site clearing and Leveling	- Retention of scrub land to the extent possible, Development of Green Belt and Afforestation within and around project area
			- Loss of Fauna, Flora and Sensitive Eco-Systems	L(-)	- Site clearing and Leveling	- Plantation of vulnerable plant species in green belt
6	Aquatic Fauna, Flora and Ecosystem	C/O	- Destruction of habitats due to offshore structure	M(-)	- Construction activities /Existence of Offshore Structures and Pipelines	- Proper location and design of structures
					- Discharge from thermal	

Environmental Item		Stage (C/O)	Identified Impacts	Severity of Impacts Before Mitigation	Factor of environment impacts	Mitigation measurements (if necessary)
					power plant	
			- Local increase in turbidity	H(-)	- Ditto	Silt screens
			- Loss of Fauna, Flora and Sensitive Eco-Systems	L(-)	- Ditto	- Proper location of structures
			- Overall Impacts on coral reefs, marine organisms and marine mammals	L(-)	- Ditto	- Proper location and design of structures
7	Hydrological situation	O	- Impacts of water extraction (current/ impingement)	L(-)	- Discharge from thermal power plant	- Proper location and design of structures with screens
			- Obstructions to drainage/Flooding	L(-)	- Existence of facilities	- Improvement in drainage channel from Sampukkali to Kaddaiparichan lagoon
8	Soil erosion	C	- Soil erosion and Siltation during construction	M(-)	- Site clearing and Leveling	- Peripheral drains with settling basins
Social Environment						
9	Local economy such as employment and livelihood, etc	C	- Loss of land/ home/ livelihood	L(-)	- Construction activities of thermal power plant	- Preference to local people in employment
			- Impacts on fishing	L(-)	- Construction activities of Offshore Structures and Pipelines	- Cordoning off the area, Proper signage (No fishing activity in construction areas)
		O	- Impacts on fishing	L(-)	- Existence of Offshore Structures and Pipelines - Discharge from thermal power plant	- Cordoning off the area, Proper signage (No fishing activity in construction areas)
			- Employment and Income	M(+)	- Increase of employment opportunity	- Preference to local people in employment, Capacity Building
10	Public safety/ security	O	- Public safety/ security	M(-)	- Operation of thermal power plant	- Traffic management, Deployment of security agencies/ systems, Disaster Management

Stage: C: Construction Stage, and O :Operation Stage

Rating: H-High, M-Medium and L-Low; (-)-Negative Impact, (+)-Positive Impact

Abbreviations: ESP-Electrostatic Precipitators, FGD- Flue Gas Desulphurisation, DE/DS-Dust Extraction/Suppression, PPE-Personal Protective Equipment

(Source: Environmental Impact Assessment for Trincomalee Thermal Power Project (2x250MW), Trincomalee, Sri Lanka, January 2015)

2) Notification for Public

(i) CEA Homepage

http://www.cea.lk/web/?option=com_content&view=article&layout=edit&id=173

CENTRAL ENVIRONMENTAL AUTHORITY

NOTIFICATION UNDER SECTION 23 BB

SUB SECTION (2) OF THE

NATIONAL ENVIRONMENTAL ACT

Environmental Impact Assessment Report

of Trincomalee Thermal Power Project (2 x 250 MW)

The above Environmental Impact Assessment (EIA) Report submitted by the Trincomalee Power Company Limited under section 23 BB (1) of the National Environmental Act No. 47 of 1980 as amended by Acts No. 56 of 1988 and No. 53 of 2000, will be available for inspection by the public at the following locations between 8.45 am and 4.15 pm for a period of 30 days from the date of the advertisement (except Weekends & Public Holidays).

1. District Secretariat / Trincomalee
2. Divisional Secretariat /Mutur
3. Pradeshiya Sabha /Mutur
4. Eastern Provincial Council / Kanniya Road, Varothayanagar, Trincomalee
5. Eastern Provincial Office / Central Environmental Authority / Priyantha Mawatha / Kanthale
6. Library / Central Environmental Authority /104, Denzil Kobbekaduwa Mawatha / Battaramulla
7. CEA Website - www.cea.lk (http://www.cea.lk)

(Sinhala Volume-I (http://203.115.26.10/TrincoEIASinhalaVI.pdf), SinhalaVolume-II (http://203.115.26.10/TrincoEIASinhalaVII.pdf), Tamil Volume-I (http://203.115.26.10/TrincoEIATamilVI.pdf),TamilVolume-II (http://203.115.26.10/TrincoEIATamilVII.pdf), English Volume-I (http://203.115.26.10/TrincoEIAEnglishVI.pdf), English Volume-II (http://203.115.26.10/TrincoEIAEnglishVII.pdf))

Any member of the public may within 30 days from the date of this advertisement submit their comments in writing on the above document to the Director General, Central Environmental Authority.

Director General

Central Environmental Authority

"Parisara Piyasa"

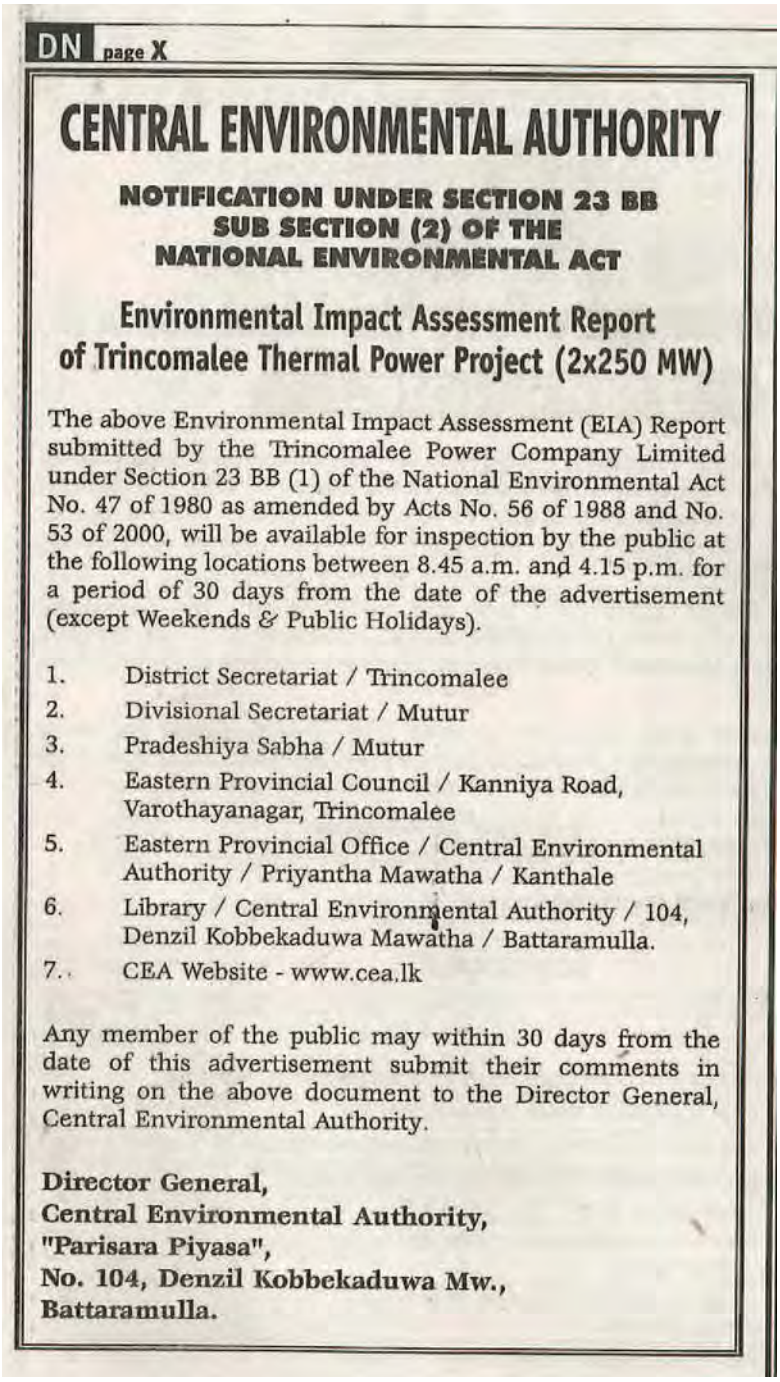
No. 104, Denzil Kobbekaduwa Mw.

Battaramulla.

Last Updated on Thursday, 12 February 2015 08:47

(ii) Advertisement in a Newspaper

Sri Lanka's National Newspaper, Friday February 13,2015



DN page X

CENTRAL ENVIRONMENTAL AUTHORITY

NOTIFICATION UNDER SECTION 23 BB SUB SECTION (2) OF THE NATIONAL ENVIRONMENTAL ACT

Environmental Impact Assessment Report of Trincomalee Thermal Power Project (2x250 MW)

The above Environmental Impact Assessment (EIA) Report submitted by the Trincomalee Power Company Limited under Section 23 BB (1) of the National Environmental Act No. 47 of 1980 as amended by Acts No. 56 of 1988 and No. 53 of 2000, will be available for inspection by the public at the following locations between 8.45 a.m. and 4.15 p.m. for a period of 30 days from the date of the advertisement (except Weekends & Public Holidays).

1. District Secretariat / Trincomalee
2. Divisional Secretariat / Mutur
3. Pradeshiya Sabha / Mutur
4. Eastern Provincial Council / Kanniya Road, Varothayanagar, Trincomalee
5. Eastern Provincial Office / Central Environmental Authority / Priyantha Mawatha / Kanthale
6. Library / Central Environmental Authority / 104, Denzil Kobbekaduwa Mawatha / Battaramulla.
7. CEA Website - www.cea.lk

Any member of the public may within 30 days from the date of this advertisement submit their comments in writing on the above document to the Director General, Central Environmental Authority.

Director General,
Central Environmental Authority,
"Parisara Piyasa",
No. 104, Denzil Kobbekaduwa Mw.,
Battaramulla.

Annex12.2-2 Preliminary Inspection Survey Report

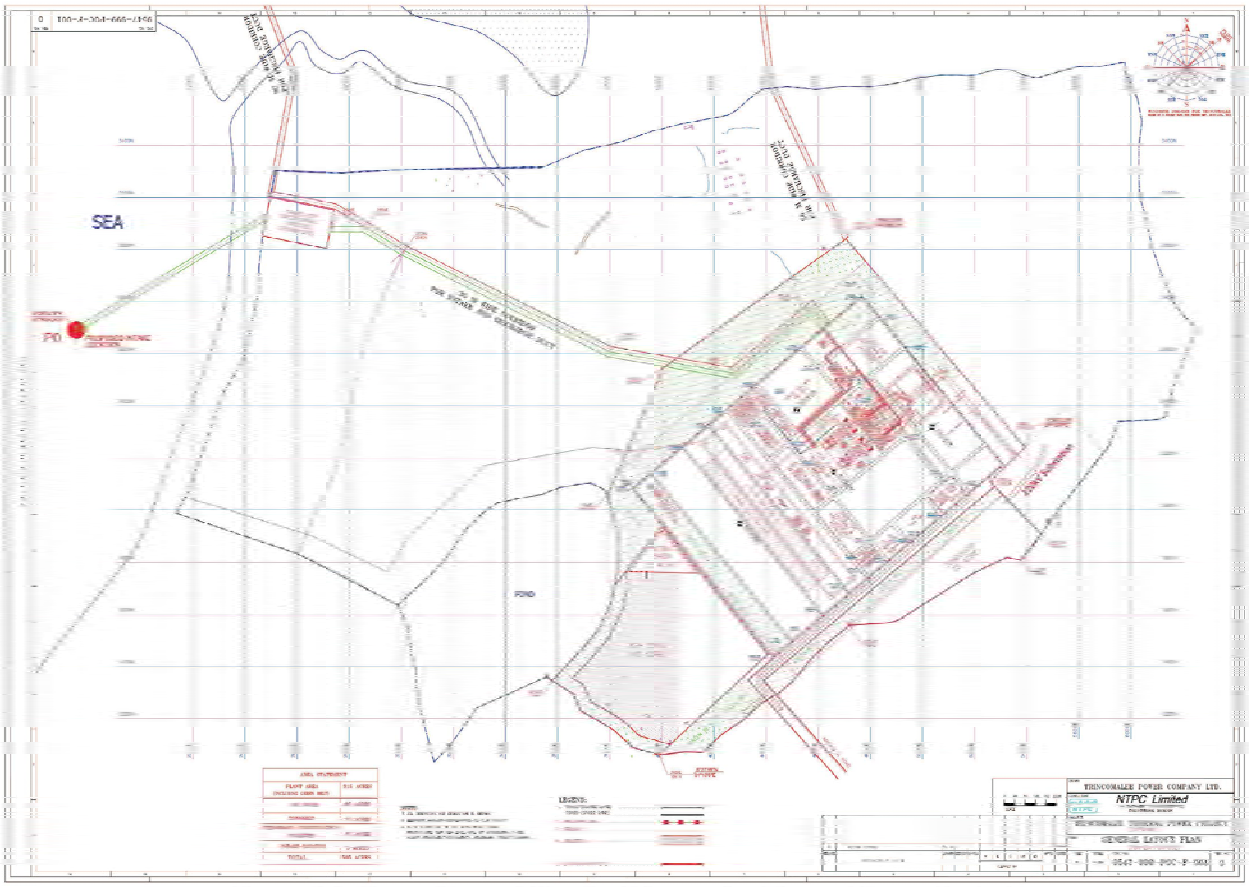
1. Introduction

Items	Description
Date of Inspection Survey	21th January 2015 (Additional interview survey ;11st of February 2015)
Site Location	- Koddiyar Pattu Gram Niladhri in the Mutur Divisionl Secretariat division of Trincomalee District in the Eastern Province of Sri Lanka - located about 35 Km from the Trincomalee Town
Project Area	505 acres. The utilization of the Land for the proposed coal power plant is given in the Table 1. The site is a part of 1700 acres of land already in possession of the government of Sri Lanka in Sampoor area for industrial development. **Table 1. Utilization of Land for the proposed coal power Plant.** S.No | Area Statement | Land allocation (Acres) 1. | 500 MW Coal Power Plant including green belt covering 100acres | 315 2 | Ash disposal | 85 3 | Township | 25 4 | Temporary Construction Facilities | 75 5 | Intake location | 5 Total | 505 Source: EIA Report for Toricommalee Thermal Power Project (2x250 MW), January 2015 The Location and the Layout Plan of the coal Power Plant are given in Figure 1and 2

2. Physical Environment

Items	Description
a)Topography	The general topography of the project area is undulating with levels of the natural ground vary between Reduced Levels (RL) (+) 3M to RL (+) 18M. The rock outcrops are abundantly seen in the project site and surrounding area. The study area has a number of water tanks and lagoons. Main Plant Area, Township and Ash Disposal areas of Trincomalee TPP shall be located on land. The only components of the power project to be installed offshore are the cooling water intake and outfall systems. (EIA report for Trincomalee Thermal Power Project).
b)Hydrology and drainage patterns	The significant stream in the project area and the surrounding area is Kaddaiparichcan Aru, which flows South of Sampur. Majority of the surface is drained through it, while the area North of Sampur is drained by a small water path called Villu Kulam Aru. Currently, no demarcated and developed drains exist in the project area although the area contains few small streams of shallow depth and wild foot prints. Owing the sandy geological formation, infiltration remains high and no strong surface runoff currents exist for natural creation of ditches and drains. Shrubs and bushes roughen the existing land terrain disturbing the smooth surface run- off.

Figure 1: Location of the Coal Power Plant



Source: EIA report for Trincomalee Thermal Power Project, February 2015

Figure 2: Layout Plan of the proposed Coal Power Plan

3. Ecological Resources

Items	Description
a)Biological Environment	Biogeographically, the proposed project area lies within the low country Dry Zone. Floristically it is under Dry and Arid Lowlands Floristic Zone and Coastal and Marine Belt Floristic Zone. Tropical Dry Mixed Evergreen Forests {*Manilkara* Community, Mixed community (*Chloroxylon-Vitex-Berrya-Schleichera* series)}, Tropical Thorn Forests (*Manilkara-Chloroxylon-Salvadora-Randia* series), Damana and Villu Grasslands, Flood-plain Wetlands, Riverine and Gallery Forests are typical natural vegetation formations in the Dry and Arid Lowlands Floristic Zone and Mangroves, Salt Marshes, Sand Dunes and Strand Vegetation are typical natural vegetation formations in the Coastal and Marine Belt Floristic Zone. However, most of the above mentioned typical natural vegetation formations not exist in the area as the area is highly man modified. Tropical Dry Mixed Evergreen Forests, Tropical Thorn Forests, Damana and Villu Grasslands, Riverine and Gallery Forests, Salt Marshes do not exist in the study area (project site and surrounding area).
b)Proposed Power Plant Location	Forests, rocky outcrops, abandoned paddy lands, abandoned tanks are existing main habitats / vegetations within the proposed power plant location. Forests that exist in the study area (project site and surrounding area) had grown after the destruction of ancient agricultural civilization and therefore, are secondary in origin. Repeated disturbances in such secondary forests due to human activities such as agriculture, timber logging and frequent shifting cultivation, etc. and lack of regeneration of high forest species result in scrub forests or scrublands. These are not a true climax vegetation type of the dry lands of Sri Lanka. Therefore, such secondary forests that exist in the study area (project site and surrounding area) cannot be classified as a Tropical Dry Mixed Evergreen Forests or Tropical Thorn Forests and therefore considered as Scrub forests or Scrublands. Scrub forest or scrublands are the most dominated vegetation type observed in the proposed land. Two types of scrub forest or scrublands can be identified in the proposed land area. One is open scrublands and the other one is thick scrub forest or thick scrublands. Open scrublands characterized by thick scrub patches and in between open grass or forb lands whereas in thick scrub forest or thick scrublands open grass or forb lands do not exist. **(Figure 3)** In accordance with the fauna and flora list provided in the EIA report for Toricomalee Thermal Power Project (January 2015) (hereinafter referred to as "the EIA report"), four endemic plant species, *Derris parviflora* (Kala Wel), *Eugenia willdenowii*, *Vernonia zeylanica* (Pupula), *Premna alstoni* (Gal Kera), five nationally vulnerable (VU) plant species, *Margaritaria indicus* (Karawu), *Strychnos nux-vomica* (Godakaduru), *Tinospora cordifolia* (Rasakinda), *Manilkara hexandra* (Palu), *Chloroxylon swietenia* (Buruta), and three nationally near threatened (NT) plant species, *Vitex altissima* (Milla), *Salvadora persica* (Maliththan), *Erythroxylum monogynum* (Devadara) were recorded in the forests of the proposed power plant location.
	 Thick scrub forest or thick scrublands

Items	Description
	 Open scrublands **Figure 3 : Thick scrub forest or thick scrublands and Open scrublands in the proposed land**
	Few rocky outcrops were observed in the proposed power plant location and rocky outcrop vegetation can be seen in such localities. **(Figure 4)** In accordance with the EIA report, two endemic plant species, *Derris parviflora* (Kala Wel), *Vernonia zeylanica* (Pupula), two nationally vulnerable (VU) plant species, *Strychnos nux-vomica* (Godakaduru), *Manilkara hexandra* (Palu) and three nationally near threatened (NT) plant species, *Vitex altissima* (Milla), *Salvadora persica* (Maliththan), *Dioscorea oppositifolia* (Gonala) were recorded in the rocky outcrops of the proposed power plant location.  **Figure 4: Rocky outcrops in the proposed land** Abandoned paddy lands and abandoned tanks are less divers and no endemic, threatened and near threatened plant species recorded in such localities. **(Figure 5)**  Abandoned paddy lands in the proposed land

Items	Description
	 Abandoned tanks in the proposed land **Figure 5 : Abandoned paddy lands and abandoned tanks in the proposed land**
c) Proposed Water Intake Path to the Power Plant Location	The proposed water intake path will be going through sand dunes, scrub forest or scrublands and abandoned lands. **(Figure 6)** In accordance with the EIA report, two endemic plant species, *Cassine glauca* (Neralu) and *Vernonia zeylanica* (Pupula), four nationally vulnerable (VU) plant species, *Crinum zeylanicum*, *Pachygone ovata*, *Manilkara hexandra* (Palu), *Tinospora cordifolia* (Rasakinda) and four nationally near threatened (NT) plant species, *Garcinia spicata* (Ela Gokatu), *Salvadora persica* (Maliththan), *Vitex trifolia*, *Diospyros Montana,* are recorded in the proposed water intake path. Except *Diospyros montana* and *Tinospora cordifolia* (Rasakinda) other six species recorded within sand dunes and *Diospyros montana* and *Tinospora cordifolia* (Rasakinda) were recorded within scrub forest or scrublands.  Sand dunes  Scrub forest or scrublands **Figure 6: Sand dunes and Scrub forest or scrublands of the proposed water intake path**
d) Proposed Water	The proposed water discharge path will be going through sand dunes, scrub forest or scrublands and abandoned lands. **(Figure7)**

Items	Description
discharge Path from the Power Plant Location	 Sand dunes  Scrub forest or scrublands **Figure 7: Sand dunes and Scrub forest or scrublands of the proposed water discharge path**
e) Proposed Coal Convey Path to the Power Plant Location	The proposed Coal convey path will be going through sand dunes, scrub forest or scrublands and abandoned lands. **(Figure 8)** In accordance with the EIA report, two endemic plant species,*Cassine glauca* (Neralu) and *Vernonia zeylanica* (Pupula), four nationally vulnerable (VU) plant species, *Crinum zeylanicum*, *Pachygone ovata*, *Tinospora cordifolia* (Rasakinda), *Strychnos nux-vomica* (Godakaduru), and three nationally near threatened (NT) plant species, *Salvadora persica* (Maliththan), *Vitex trifolia*, *Diospyros Montana,* are recorded in the proposed Coal convey path and recorded within scrub forest or scrublands. *Crinum zeylanicum*, *Pachygone ovata*, *Salvadora persica* (Maliththan), *Vitex trifolia* were recorded within sand dunes and *Pachygone ovata*, *Tinospora cordifolia* (Rasakinda), *Diospyros montana* were recorded within scrub forest or scrublands. *Strychnos nux-vomica* (Godakaduru) was recorded within abandoned lands.  Sand dunes

Items	Description
	 Scrub forest or scrublands **Figure 8: Sand dunes and Scrub forest or scrublands of the proposed Coal convey path**
f) Existing Habitats / Vegetation in the Surrounding Area	Forests, Mangroves, Sand dunes, rocky outcrops and streams are existing natural habitats / vegetation in the surrounding area. In addition to above natural vegetation / habitats, various non natural and semi natural vegetation / habitats such as, tanks, abandon lands, abandon paddy lands, agricultural lands, home gardens are exists in the surrounding area. **(Figure 9)**  **Figure 9: Mangroves of the surrounding area** Sand dunes exist along the coast of the study area. However, those sand dunes are not extensive and vegetation on the sand dunes are disturbed. Mangroves exist on the edges of the lagoons and estuaries in the surrounding area of the proposed project. In addition to lagoons and estuaries, few floodplain wetlands are exists (Sambu Kulam, Villu Kulam, etc.) in the area and fresh water plant communities observed in such floodplain wetlands. There are few small (small in width and short in length) seasonal streams connect with the sea (Koddiyar Bay). Disturbed mixed vegetation can be seen beside such streams. **(Figure 10)**  **Figure 10: Small stream that connect with Koddiyar Bay**

Items	Description
g) Existing Habitats / Vegetation in the Surrounding Are	In accordance with the EIA report, four endemic plant species, *Derris parviflora* (Kala Wel), *Eugenia willdenowii*, *Vernonia zeylanica* (Pupula), *Cassine glauca* (Neralu), one critically endangered possibly extinct {CR(PE)} plant species, *Euphorbia atoto*, One nationally critically endangered (CR) plant species, *Ceriops decandra* **(Figure 11)**, one nationally endangered (EN) plant species, *Cordia subcordata*, 13 nationally vulnerable plant species, *Crinum zeylanicum*, *Aponogeton natans* (Kekatiya), *Ipomoea stolonifera*, *Margaritaria indicus* (Karawu), *Cynometra iripa* (Opulu), *Strychnos nux-vomica* (Godakaduru), *Pachygone ovata*, *Tinospora cordifolia* (Rasakinda), *Vanda tessellata*, *Bruguiera gymnorhiza* (Mal Kadol), *Guettarda speciosa* (Nil Pichcha), *Manilkara hexandra* (Palu), *Chloroxylon swietenia* (Buruta), 15 nationally near threatened (NT) plant species, *Avicennia officinalis* (Manda), *Calamus rotang* (Heen Wewel), *Aristolochia bracteolata* (Sapsanda), *Lumnitzera racemosa* (Beriya), *Dioscorea oppositifolia* (Gonala), *Sansevieria zeylanica* (Niyanda), *Diospyros montana*, *Erythroxylum monogynum* (Devadara), *Pemphis acidula* (Kiri Maram), *Ceriops tagal*, *Salvadora persica* (Maliththan), *Madhuca longifolia* (Mi), *Heritiera littoralis* (Etuna), *Vitex altissima* (Milla), *Vitex trifolia*, and one nationally data deficient (DD) plant species, *Tinospora sinensis* (Bu Kinda) were recorded in surrounding area of the proposed project site.  **Figure 11: Ceriops decandra - Critically Endangered (CR) plant species according to 2012 Red Data book** *Gallus lafayetii* (Sri Lanka Junglefowl), *Pellorneum fuscocapillum* (Sri Lanka Brown-capped Babbler) are recorded endemic birds, *Appias galane* (Lesser albatross) is recorded endemic butterfly, *Moschiola meminna* (Sri Lanka mouse-deer) is recorded endemic mammal, *Lissemys ceylonensis* (Flapshell turtle) is recorded endemic reptile, *Euplecta layardi*, *Cyclophorus menkeanus*, *Theobaldius cratera* are recorded endemic land snail species within the project site. *Papilio crino* (Banded peacock), *Colotis aurora* (Plain orange tip) are recorded vulnerable (VU) butterflies, *Prionailurus rubiginosus* (Rusty-spotted cat), *Elephas maximus* (Elephant) are recorded endangered mammal species, *Euplecta layardi* is recorded endangered (EN) land snails species, *Cyclophorus menkeanus* is recorded vulnerable (VU) land snails species, *Macrachlamy vilipensa*, *Theobaldius cratera* are recorded data deficient (DD) land snail species within the project site.

Photo taken by Survey Team

4. Socio-Economic environment

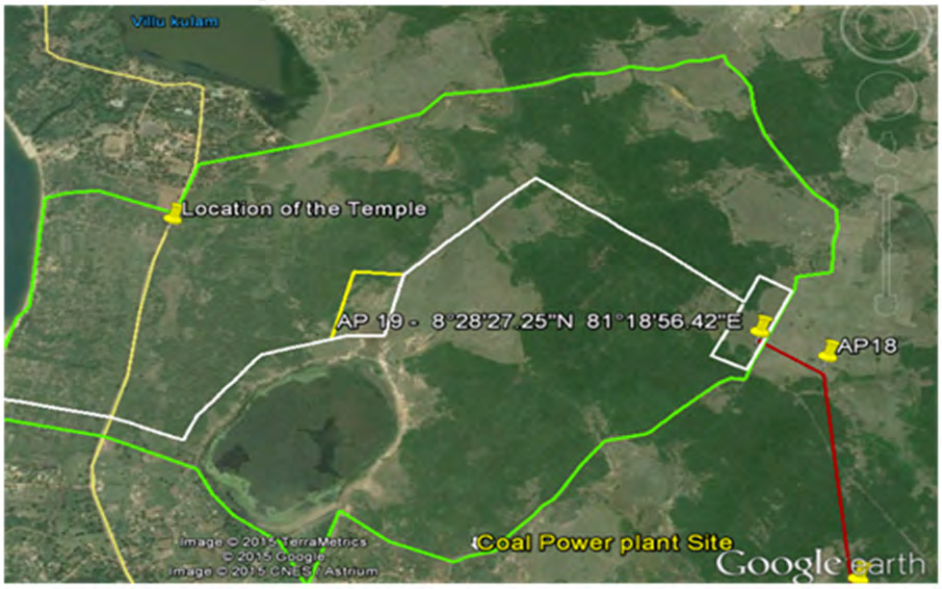
<table>
<tr><th>Items</th><th>Description</th></tr>
<tr><td>1) Land Acquisition and Resettlement</td><td>
Proposed project site and surrounding area consist four Grama Niladari Divisions under the Mutur Divisional Secretariat of Trincomlee Administrative District in the Island. The project area and surrounding was severely affected by the conflict situation in several time and especially during the last period of the internal war in 2006. During period these villages were completely displaced and resettled.

According to the community consultation on 11 of February 2015, it was found that some villages in the surrounding area had not resettled due to lack of proper alternative land for the resettlement, and about 800 families of the displaced people are still living in the Internal Displaced Camps and Friends, and their relatives' places in the surrounding area. However, there is no detail of the number of families and where they live at present. The following information is purely based on the community consultation. The figures given in the table are tentative numbers communicated by the community.
Table1. Population of Grama Niladari Division of the Surrounding Area
<table>
<tr><th>SN</th><th>GrmaNiladari Division Name</th><th>Families Before Displacement</th><th>Families Present</th><th>Families to be Resettled</th></tr>
<tr><td>1</td><td>Sampoor East</td><td>324</td><td>0</td><td>345</td></tr>
<tr><td>2</td><td>Sampoor West</td><td>421</td><td>0</td><td>434</td></tr>
<tr><td>3</td><td>Nawarathnapuram</td><td>242</td><td>256</td><td>0</td></tr>
<tr><td>4</td><td>Koonitheevu</td><td>176</td><td>184</td><td>0</td></tr>
<tr><td>5</td><td>Kaddaiparichchan</td><td>369</td><td>410</td><td>0</td></tr>
<tr><td>6</td><td>Kadarkaraichenai</td><td>611</td><td>641</td><td>46</td></tr>
<tr><td colspan="2">Total</td><td>2,143</td><td>1,491</td><td>825</td></tr>
</table>
Source: Prepared by the Survey Team based on Community Consultation
Note; The numbers in the table are tentative

Government of Sri Lanka and the Boards of Investment (BOI) are assisting to the resettlement through the District Secretariat and Muthur Divisional Secretariat. The following alternative sites have been identified resettlement of remaining families.
Table 2 : Identified Lands for Relocation
<table>
<tr><th>Land Area</th></tr>
<tr><td>Seenakkuli</td></tr>
<tr><td>Vemputhottam</td></tr>
<tr><td>Ilakkanthai</td></tr>
<tr><td>Weeranagar</td></tr>
<tr><td>Thangapuram-T</td></tr>
<tr><td>Kuravanvettu</td></tr>
<tr><td>Vannithottam</td></tr>
</table>
Source: Prepared by the Survey Team based on Community Consultation
</td></tr>
<tr><td>2)Livelihood</td><td>
People in the Sampoor area have been consulted to get their views on 11 of February, 2015. The list of people met during the discussion is given in the following table.

Table3: List of people met during the Field Visit
<table>
<tr><th>SN</th><th>Name</th><th>Village</th><th>Grama Niladari Division</th></tr>
<tr><td>1</td><td>Mr.N.Varathan</td><td>Santhosapuram</td><td>Kadarkaraichenai</td></tr>
<tr><td>2</td><td>Mr.K.Weerasingham</td><td>Santhosapuram</td><td>Kadarkaraichenai</td></tr>
<tr><td>3</td><td>Mr.K.Sanmugaraja</td><td>Santhosapuram</td><td>Kadarkaraichenai</td></tr>
<tr><td>4</td><td>Mrs.Thanaladchumi</td><td>Snathosapuram</td><td>Kadarkaraichenai</td></tr>
</table>
Source: Prepared by the Survey Team based on Community Consultation

Agriculture and fishing is the major livelihood income for the community in the villages. The major concern of the community is the loss of their agriculture land in the villages due to proposed heavy industrial and the coal power plant in the area. Some of the displaced families in
</td></tr>
</table>

Items	Description
	the Internally Displaced Persons (IDPs) were involved in the inland, marine and lagoon fishing as their livelihood and some of the identified places for new resettlement are not suited for such activities and they have to go for new livelihood opportunities in the proposed resettlement areas.
3) Cultural and Archeological Area t	There is no archeologically important are within the project site but one Hindu Kovil is located near the corridor of the cooling water intake line.  **Figure 12: Hindu Kovil in the corridor**  **Figure 13: Location of the Hindu Kovil**

5. General landscape of the proposed Coal Power Plant area

Entrance to the industrial area

The Scrub Land in the Site

People removing the boulders in the area

Water Logged area in the Project site

Coastal area of the water intake point at Koddiyar Bay

Annex12.2-3 Draft Environmental Checklist: Trincomalee Thermal Power Project (2x250 MW) Trincomalee, Sri Lanka

Category	Environmental Item	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
1 Permits and Explanation	(1) EIA and Environmental Permits	(a) Have EIA reports been already prepared in official process?	(a): Y	(a) The EIA report has already been prepared by the Trincomalee Power Company Limited (TPCL) as the project proponent on middle of February, 2015, under section 23 BB (1) of the National Environmental Act No. 47 of 1980 as amended by Acts No. 56 of 1988 and No. 53 of 2000.
		(b) Have EIA reports been approved by authorities of the host country's government?	(b): N	(b) 30 days (except Weekends & Public Holidays) public disclosure has been finished on early of April 2015. After public disclosure, Project Approving Agency (PAA) will prepare the comment for EIA before approval procedure.
		(c) Have EIA reports been unconditionally approved? If conditions are imposed on the approval of EIA reports, are the conditions satisfied?	(c): N	(c) The EIA report has not been approved, as of April, 2015. The EIA is expected to be approved in July, if things go well.
		(d) In addition to the above approvals, have other required environmental permits been obtained from the appropriate regulatory authorities of the host country's government?	(d) :Y/N	(d) The statuses of Environmental permission without EIA are as follows, i) Environmental Protection License (EPL) Authority : CEA or Local Authority Status: Construction Contractors are required to obtain EPL TPCL to apply one month prior to commencement of operations of the power plant ii) Permit under the Mines and Mineral Act No. 33 of 1992 Authority :Geological Survey and Mines Bureau Status : Construction Contractors are required to obtain permit. iii) Approval under Gazette No.1152/14 dated October 04, 2000 to be read with the Section 43(b) of the Antiquities (Amendment) Act No. 24 of 1998. Authority :Department of Archaeology Status : Approval is already obtained. iv) Approval for Felling of Jack, Bread Fruit and female Palmyra trees under the Felling of Trees Control Act No 1 of 2000 Authority :Divisional secretaries of relevant department Status: Construction Contractors are required to obtain permit for felling of female Palmyarah trees v) Recourse Management (CC&CRM) Authority :Department of Coast Conservation and Coastal Status: EIA report covers this, separate permit is not required. vi) Approval under Marine Pollution Prevention Act, No. 35 of 2008. Authority :Marine Pollution Prevention Authority (MPPA) Status: Permit is required from MPPA to discharge cooling water and any other material into the sea during the operation period. *(Source: Chapter 1, Page 20. Table 1.4: List of Approvals required for Commissioning of a Thermal Power Project)*
	(2) Explanation to the Local Stakeholders	(a) Have contents of the project and the potential impacts been adequately explained to the Local stakeholders based on appropriate procedures, including information disclosure? Is understanding obtained from the Local stakeholders?	(a): Y	(a): The public consultation in local level were conducted in three types focus group discussion as follows; 1st Date :1st October, 2014, Venue: At Soodaikuda fisheries landing site Number of participants: 7 Target of Stakeholders:Fisherman 2nd Date :1st October, 2014, Venue: At Kaliamman Kovil – Sampoor Number of participants; 8 Target of Stakeholders; Community and religious leaders in Sampoor area 3rd Date :3rd October, 2014, Venue: At Soodaikuda fisheries landing site

Category	Environmental Item	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
				Number of participants; 9 Community leaders residing in 3 land belts include; - 50mete radius from the project land (there are no people residing at present in this land belt). - 200 meter land belt from the boundary of 50meter land belt - 1750 meter land belt from the boundary of 250 meter land belt *(Source: Details of Focus Group Discussions, Annexure XIV, Page 1-9.)* The EIA report also opened for public comments as per the EIA procedure it in progress, as of March, 2015. *(Source; http://www.cea.lk/web/?option=com_content&view=article&layout=edit&id=173)*
		(b) Have the comment from the stakeholders (such as local residents) been reflected to the project design?	(b): Y	(b): In consideration of stakeholder comments that priority shall be given to the people in the vicinity of the project in providing employment/ job opportunities during construction and operation phases in the coal power project, the mitigation measurements for improvement of vicinity people's livelihood is prepared. *Source: Chapter 2, Page-53.*
	(3) Examination of Alternatives	(a) Have alternative plans of the project been examined with social and environmental considerations?	(a):Y	(a) During the Strategic Environmental Assessment (SEA) undertaken by Central Environmental Authority (CEA) and University of Moratuwa (UOM) in 2008, two alternatives, Sampoor area and Sampalthive area were examines with social and environmental considerations. SEA recommends Sampoor area for power development over Sampalthive area, because of inherent advantages of Sampoor Site including the fact that deep water of Koddiyar Bay will be an asset when considering the transport of coal and minimizing the adverse impacts caused by thermal stress and damage to marine environment. *(Source; Chapter-1, Section1.1, Page- 3-4)* No action alternative is analyzed in the EIA report, and indicates that "No action", i.e. not implementing Trincomalee Power Project is not a viable alternative from the view point of the economic development of the country. In addition, the locations of intake in Koddiyar Bay and outfall in Shell Bay were optimized based on a number of iterations during the studies undertaken by TPCL through Lanka Hydraulic Institute (LHI). *(Source; Chapter-2, Section 2.5, Page 56-59)*
2 Pollution Control	(1) Air Quality	(a1) Do air pollutants, such as sulfur oxides (SOx), nitrogen oxides (NOx), and soot and dust emitted by the power plant operations comply with the country's emission standards?. (a2)Is there a possibility that air pollutants emitted from the project will cause areas that do not comply with the country's ambient air quality standards? Are any mitigating measures taken?	(a1): Y (a2): N	(a1) : The predicted maximum 24 hourly incremental ground level concentrations for SO_2, NOx, and PM from the project with Flue Gas Desulphurization (FGD) unit were estimated to be well within the National Ambient Air Quality Standards (NAAQS) of Sri Lanka, with enough margins for future development of power projects and other industries in Sampoor area. *(Source:Chapter-4, Section 4.2.4, Page-48)* (a2): There is a possibility to exceed the NAAQS when the FGD is not properly operated. The mitigation measures are proposed as follows; −Preparation of High efficiency electrostatic precipitators (ESPs) to limit the particulate emission −Design of furnace to control the formation of oxides of nitrogen. −Sea water Flue Gas Desulphurisation system to limit the emission of SO_2 in the flue gases. −135 m high twin flue stack to facilitate wider dispersion of

Category	Environmental Item	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
				flue gases. −Preparation of Dust extraction/ suppression systems in coal handling plant and coal stock yard −A green belt is proposed to be provided all around the project except switch yard side. (*Source:Chapter-5, section 5.6 Air Emission Control Systems, Page-6)*
		(b1) In the case of coal-fired power plants, is there a possibility that fugitive dust from the coal piles, coal handling facilities, and dust from the coal ash disposal sites will cause air pollution? (b2)Are adequate measures taken to prevent the air pollution?	(b1) :N (b2) :Y	(b1) The ash will be extracted and transported in dry form using pneumatic conveying system through closed pipelines. Therefore, the likelihood of fugitive emissions is remote. The unused fly ash will be disposed off in ash dyke through High Concentration Slurry Disposal (HCSD) system, which utilizes a high ash: water ratio to create highly viscous ash slurry which gets solidified in 1-2 days time. The solidified layer of slurry is not susceptible to fugitive dust emissions. *(Source: Chapter-4, Section 4.2.4.4 Fugitive Emissions and impacts, Page-78)* (b2)The mitigation measures are proposed as follows; - Plain water dust suppression system is provided in the entire coal stock yard to control dust emission. -The complete phenomenon of pulverization and conveying of crushed coal to furnace are enclosed unit. -Closed conveyor galleries and enclosed transfer houses are provided. *(Source: Chapter-4, Section 4.2.4.4 and 4.2.4.5, Page-78)*
	(2) Water Quality	(a1) Do effluents including thermal effluents from the power plant comply with the country's effluent standards? (a2)Is there a possibility that the effluents from the project will cause areas that do not comply with the country's ambient water quality standards or cause any significant temperature rise in the receiving waters?	(a1) :Y (a2):N	(a1): The effluents shall be discharged into sea through a well designed outfall structure to proper mixing and dilution into Shell Bay (at a location 480 m from shore, at a depth of 7 m). Discharge maximum temperature of heated water from thermal power plant is designed 7 degree centigrade above ambient water temperature, which is comply with the under the CEA and Marine Environmental Protection Authority (MEPA) regulations for discharge into marine coastal waters. (a2) : The locations of out fall has been decided in the EIA study based on an iterative modeling process to optimize the location minimal impacts. The residual chlorine concentration of the discharged water will be maximum 0.2ppm higher than the intake water, which is well within the standards given under World Bank Guidelines (Environmental Health and Safety Guidelines for Thermal Power Plants, 2008). Therefore, no further mitigation action is proposed. The increase in SO_4 concentration due to FGD process is expected to be within 33-40mg/l. The increase in SO_4 concentrations is within the natural range of SO_4 concentrations in ambient sea water. Therefore, the impacts are considered to below and no mitigation actions are proposed for SO_4 in the effluents. *(Source: Chapter-5, Page-5)*
		(b) In the case of coal-fired power plants, do leachates from the coal piles and coal ash disposal sites comply with the country's effluent standards?	(b) : Y	(b) There is no discharge of effluents from the coal ash. The waste water will be recycled in the ash handing process. The effluents from the coal handling plant including coal stock yard shall be led to a coal settling pond, where the suspended coal particles will be removed and the decanted water will be recycled for further use in dust suppression. *(Source: Chapter-2, Page-11, 36)*
		(c) Are adequate measures taken to prevent	(c): Y	(c): The ash disposal area will be provided with an earthen dyke all around to prevent spreading of ash as well as

Category	Environmental Item	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
		contamination of surface water, soil, groundwater, and seawater by the effluents?		collect excess water, especially in rainy season. The bottom of the dyke will be provided with the impervious liner. The water collected from the ash dyke area shall be recycled back to the ash handling system for re-use. *(Source: Chapter- 5, Section 5.2-5.4)*
	(3) Wastes	(a) Are wastes, (such as waste oils, and waste chemical agents), coal ash, and by-product gypsum from flue gas desulfurization generated by the power plant operations properly treated and disposed of in accordance with the country's regulations?	(a): Y	(a): general waste management plan/programs are proposed as follows; Waste oil: Oil separators shall be provided in the oil handling and storage area for removal of oil. Treated effluents conforming to the Tolerance Limits of Industrial and Domestic Waste Discharged in Marine Coastal Area specified under National Environment (Protection and Quality) Regulations shall be recycled/ discharged. *(Source: Chapter-4, Page-44, Section 4.2.2.3)* Waste chemical agents : No waste chemical identified in the report. Coal Ash :The fly ash shall be extracted in dry form from the electrostatic precipitator, Economizer and Air Pre Heater (APH) hoppers. The user industries shall take the dry fly ash from these storage silos in tankers. In case of non-utilization, fly ash shall be taken to HCSD system, where in it shall be mixed with water in the agitator tanks for disposal in ash disposal area using high concentration slurry disposal system. The ash disposal area shall be provided with an earthen dyke all around to prevent spreading of ash as well as collect excess water, especially in rainy season. The bottom of the dyke shall be provided with the impervious liner. The water collected from the ash dyke area shall be recycled back to the ash handling system for re-use. Further, the ash stored in the ash dyke shall also be used at later stage. *(Source: Chapter-2, Page-31)*
2 Pollution Control	(4) Noise and Vibration	(a) Do noise and vibrations comply with the country's standards?	(a): Y	(a)The predicted noise level due to operation of thermal power plant at a distance of 500m from the source is 39.5 dB(A). The ambient noise level recorded at three points during field studies in the project area and nearby villages located up to a distance of 2 km from the main plant ranges between 45.3-53.4 dB(A) during day time and 42.1-47.8 dB(A) during night time, which were within the Permissible Noise Level at Urban/Rural/Mixed Residential area (day time: 65dB(A) and night time: 56dB(A)) in accordance with Noise Control Regulations (Schedule – VI of Notification 924/12) . Hence, there will not be any significant impact on the village due to masking effect. The noise shall be controlled through the design of the machines, provision of acoustic enclosures over the sources of noise and provision of barriers in the form of buildings. Further, provision of green belts around the plant area shall also help in absorbing the noise generated. As for vibration impact during operation, the control of vibrations in various machines and buildings shall be achieved through appropriate design and maintenance procedures. *(Source: Chapter-4, Page-78-80, Section 4.2.5 Noise & Vibration and Odour problems, and Chapter-5, Page-6-7, Section 5.7 Noise & Vibration and Odour Control Systems)*
	(5) Subsidence	(a) In the case of extraction of a large volume of groundwater, is there a possibility that the extraction of groundwater	(a): N	(a) During operation phase, the project does not envisage any use of fresh surface water or ground water and the entire water requirement of the project shall be met from the sea water (Koddiyar Bay). Just in case, a study on availability and safe extraction of

Category	Environmental Item	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
		will cause subsidence?		ground water at project site was undertaken through Lanka Hydraulic Institute, Colombo in the EIA study. *(Source: Chapter-4, Page-18, Section 4.2.1.1 Impact of Ground Water / Surface Water Extraction)*
	(6) Odor	(a) Are there any odor sources? Are adequate odor control measures taken?	(a): N	(a) In a coal based thermal power project, odour is not a significant problem. No mitigatory measures require. *(Source: Chapter-4, Page-78, Section 4.2.5 Noise & Vibration and Odour problems)*
3 Natural Environment	(1) Protected Areas	(a) Is the project site located in protected areas designated by the country's laws or international treaties and conventions? Is there a possibility that the project will affect the protected areas?	(a) : N	(a) The project area does not come within any protected areas declared by the Department of Wildlife Conservation or Forest department. The project components are not located within a national reserve or within one mile from the boundary of any national reserve, though there are number of protected areas in the proximity of the proposed project area. The project and its components, specially the intake and discharge locations are neither located in the protected area nor too close to the protected areas. *(Source: Chapter-3, Page-87, Para 2, and Chapter- 4, page-3, Section 4.1.1.4 Impacts on Fauna, Flora and on Sensitive and Fragile Eco-Systems due to Turbidity Changes and Re-deposition of Sediments etc.)*
	(2) Ecosystem	(a) Does the project site encompass primeval forests, tropical rain forests, ecologically valuable habitats (e.g., coral reefs, mangroves, or tidal flats)?	(a): N	(a) The project site does not comes under any ecologically important ecosystem, though the surrounding area particularly Shell Bay consist of coral reefs and mangroves are observed in the shell bay area.
		(b) Does the project site encompass the protected habitats of endangered species designated by the country's laws or international treaties and conventions?	(b) : Y	(b)The project will result in the establishment of a coal power plant in the Trincomalee district. The site selected for the proposed project has an extent of 200 ha and at about 75% of the land are comprise of scrubland that has been highly modified due to human activity. The remaining 25% comprise of abandoned paddy lands, rock outcrop associated vegetation and seasonal small tanks. Since habitat diversity is low in the site selected for the proposed project the overall species richness was found to be low compared to habitats that are found immediately outside the project site. Likewise, the habitats within the project site supported few endemic and threatened species compared to the habitats outside the project area. *(Source: Chapter-4, Page-81, Section 4.2.6)*
		(c) If significant ecological impacts are anticipated, are adequate protection measures taken to reduce the impacts on the ecosystem?	(c) : Y	(c): The ecological impacts anticipated mainly on the marine ecosystem are loss of corals due to dredging and excavation over limited areas in Shell Beyond Koddiyar Bay and stress conditions due to changes in water quality, turbidity and sediment characteristics, temperature and salinity. The mitigatory measures proposed are: -The locations of intake and outfall have been decided based on an iterative modeling process to optimize the location with minimal impacts -Transplantation of all adult coral boulders of the proposed area to a suitable location before commencement of construction. -Provisions of silt screens or containment booms to reduce siltation and the movement of turbid waters into sensitive areas, if a need arises. -Proper maintenance and operation of construction equipment to avoid any possible oil leakages into the waters *(Source: Chapter-5, Page-24, Table: 5.2)*

Category	Environmental Item	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
		(d) Is there a possibility that the amount of water (e.g., surface water, groundwater) used by the project will adversely affect aquatic environments, such as rivers? Are adequate measures taken to reduce the impacts on aquatic environments, such as aquatic organisms?	(d): N	(d) No river water is used in the power plant. Sea water only used in the process. The impacts are discussed in the item (b) and (C)
		(e) Is there a possibility that discharge of thermal effluents, intake of a large volume of cooling water or discharge of leachates will adversely affect the ecosystem of surrounding water areas?	(e): Y	(e) Please ref. item (c)
4 Social Environment	(1) Resettlement	(a) Is involuntary resettlement caused by project implementation? If involuntary resettlement is caused, are efforts made to minimize the impacts caused by the resettlement?	(a) :N	(a) Project land (505 acres) leased to TPCL by Government of Sri Lanka is bare land. There is no single human settlement within the project land. *(Source: Chapter-3, Page-98, Section 3.3.1.)*
		(b) Is adequate explanation on compensation and resettlement assistance given to affected people prior to resettlement?	(b): NA[1]	(b) There is no involuntary resettlement caused by project implementation.
		(c) Is the resettlement plan, including compensation with full replacement costs, restoration of livelihoods and living standards developed based on socioeconomic studies on resettlement?	(c): NA	(c) Ditto
		(d) Are the compensations going to be paid prior to the resettlement?	(d): NA	(d) Ditto
		(e) Are the compensation policies prepared in document?	(e): NA	(e) Ditto
		(f) Does the resettlement plan pay particular attention to vulnerable groups or people, including women, children, the elderly, people below the poverty line, ethnic minorities, and indigenous peoples?	(f): NA	(f) Ditto

[1] NA – Not applicable

Category	Environmental Item	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
		(g) Are agreements with the affected people obtained prior to resettlement?	(g):NA	(g) Ditto
		(h) Is the organizational framework established to properly implement resettlement? Are the capacity and budget secured to implement the plan?	(h) :NA	(h) Ditto
		(i) Are any plans developed to monitor the impacts of resettlement?	(i) :NA	(i) Ditto
		(j) Is the grievance redress mechanism established?	(j):NA	(j) Ditto
	(2) Living and Livelihood	(a1) Is there a possibility that the project will adversely affect the living conditions of inhabitants? (a2)Are adequate measures considered to reduce the impacts, if necessary?	(a1) : N (a2) : Y	(a1) No major impact on the livelihood has been reported, because fisheries and agriculture are the main livelihood activities in the area. But, about 40-50 persons are involved in some income generation activities in the present land (firewood collection and collecting bee honey). These livelihood activities will not be possible in future due to the clearance of the scrub land. (a2) As adequate measures for reduce of impact on the livelihood due to the project implementation, priority shall be given to the people in the vicinity of the project in providing employment/ job opportunities during construction and operation phases.
		(b) Is sufficient infrastructure (e.g., hospitals, schools, and roads) available for the project implementation? If the existing infrastructure is insufficient, are any plans developed to construct new infrastructure or improve the existing infrastructure?	(b) : Y	(b) Adequate infrastructure facilities are available in the area, however, the project developer may tend to establish a separate medical center for its employees. *(Source: Chapter-4, Page-89, Section 4.2.7.7)*
		(c) Is there a possibility that large vehicles traffic for transportation of materials, such as raw materials and products will have impacts on traffic in the surrounding areas, impede the movement of inhabitants, and any cause risks to pedestrians?	(c): Y	(c) Increased traffic during construction phase to/ from the construction site may lead to traffic congestions, conflicts and accidents in the immediate vicinity of the project as well as main roads leading to the project site. Special emphasis shall be laid on traffic management to avoid the above impacts. Mitigations - Access routes to construction sites as well as stretches of roads to be widened/ constructed shall be identified. The widening/ strengthening of the roads shall be undertaken before the start of the major construction activities. - Necessary manpower and equipment (flags, signs, lights, placards, barriers etc.) shall be deployed for traffic management (routing, diversion, signaling etc.) at the identified sites as well as parking space for vehicles. - It will be ensured that all the drivers understand the traffic management system. - The contractors will maintain all vehicles so that their noise and exhaust emissions do not cause nuisance to the workers and general public. All vehicles engaged in construction shall have valid registration/ fitness

Category	Environmental Item	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
				certificate from concerned authority. *(Source: Chapter-4, Page-11 Section 4.1.2.9)*
		(d) Is there a possibility that diseases, including infectious diseases, such as HIV, will be brought due to the immigration of workers associated with the project? Are adequate considerations given to public health, if necessary?	(d) : N	(d) No details were provided in the EIA report in respect to the migrant worker, though the provision of Health Care Facilities to local population through dispensary & medical camps are proposed as the mitigation measures for health of public.
		(e) Is there a possibility that the amount of water used (e.g., surface water, groundwater) and discharge of thermal effluents by the project will adversely affect existing water uses and uses of water areas (especially fishery)?	(e) : N	(e) The require water for the construction purposes will be used by extraction from the ground water. The yield test has been conducted..
4 Social Environment	(3) Heritage	(a) Is there a possibility that the project will damage the local archeological, historical, cultural, and religious heritage? Are adequate measures considered to protect these sites in accordance with the country's laws?	(a) : N	(a) No negative impacts on religious, historical or archeological places as all such significant places are located beyond 2km distance from the project land. No mitigation required. *(Source: Chapter-5, Page-30)*
	(4) Landscape	(a) Is there a possibility that the project will adversely affect the local landscape? Are necessary measures taken?	(a): Y	(a) The existing land use patter will be changed due to the construction of the project. However, this area has been identified for coal power plant and heavy industrial activities. The green belt is proposed to be provided all around the project except switch yard side.
	(5) Ethnic Minorities and Indigenous Peoples	(a) Are considerations given to reduce impacts on the culture and lifestyle of ethnic minorities and indigenous peoples?	(a) : NA	(a) No cultural structures existing within the area. There are no indigenous peoples in the area.
		(b) Are all of the rights of ethnic minorities and indigenous peoples in relation to land and resources respected?	(b) : NA	(b) No houses are located within the project area. No special references have been given regarding the cultural values in the project assuming that there is no major impact.
	(6) Working Conditions	(a) Is the project proponent not violating any laws and ordinances associated with the working conditions of the country which the project proponent should observe in the project?	(a) : N	(a): As the project is in the planning stage, the violating any laws and ordinances associated with the working conditions of the country could not be assessed. No special references have been given to the Labor Laws in the report

Category	Environmental Item	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
		(b) Are tangible safety considerations in place for individuals involved in the project, such as the installation of safety equipment which prevents industrial accidents, and management of hazardous materials?	(b):Y	(b) Adequate details on the per Occupational Health and Safety Facilities are discussed (*Source:* Chapter-2, Page-53 in Section 2.4.6)
		(c) Are intangible measures being planned and implemented for individuals involved in the project, such as the establishment of a safety and health program, and safety training (including traffic safety and public health) for workers etc.?	(c) : Y	(c) Adequate details on the personnel protective equipments are given in Chapter-2, Page-54 in Section 2.4.6.
		(d) Are appropriate measures taken to ensure that security guards involved in the project not to violate safety of other individuals involved, or local residents?	(d): Y	(d) There is no special reference given in the EIA report, but item 6 (b) and (c) are directly relevant to this.
5 Others	(1) Impacts during Construction	(a) Are adequate measures considered to reduce impacts during construction (e.g., noise, vibrations, turbid water, dust, exhaust gases, and wastes)?	(a): Y	(a) The mitigation measures to reduce impacts during construction proposed are as follows: Noise and Vibration - Proper maintenance of Diesel Generator, set and other construction equipment/ vehicles. - The high noise construction activities will be undertaken only during the daytime, as far as possible. - Impacts of drilling and blasting operations will be mitigated by adopting controlled blasting and strict surveillance. - Protection of hearing senses of workers by providing them with ear plugs/ muffs. Turbid water - Provision of drainage network, sedimentation basins and channelizing the effluents from construction sites through the sedimentation tanks to remove the suspended solids. Dust - Proper maintenance of vehicles and Water sprinkling in vulnerable areas - Transportation of construction material in covered trucks, wherever possible, Exhaust gases - Special emphasis on traffic management (routing, diversion, signaling etc.) with deployment of necessary manpower and equipment (flags, signs, lights, placards, barriers etc.) at the identified sites as well as parking space for vehicles. - Proper Maintenance of vehicles, and Spraying water in areas vulnerable to dust emission Wastes management - The construction waste generated from the project activities shall be suitably recycled/ reused/ disposed off through appropriate methods meeting Sri Lankan Standards. (*Source:* Chapter-5, Page-12-17)

Category	Environmental Item	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
		(b) If construction activities adversely affect the natural environment (ecosystem), are adequate measures considered to reduce the impacts?	(b): N	(b): No major impacts on the natural ecosystem would be expected. However, the scrub land within the project area will be completely cleaned for the purpose of construction the power plant. Other than that there is no major impacts could be observed.
		(c) If construction activities adversely affect the social environment, are adequate measures considered to reduce the impacts?	(c) : N	(c) No major social impacts is anticipated
	(2) Accident Prevention Measures	(a) In the case of coal-fired power plants, are adequate measures planned to prevent spontaneous combustion at the coal piles (e.g., sprinkler systems)?	(a) : Y	(a) Adequate fire protection facilities are incorporated into the design. A comprehensive fire detection and protection system shall be provided covering the various areas of Power Plant including Employer's facilities/ systems as specified in the contract. The fire protection system shall consist of fire water storage tanks, fire water pumping system, fire water hydrant and spray system serving the whole station including Employer's plant/ facilities/ buildings. The details are given in Chapter-2, Page-14 in section 2.1.7.
	(3) Monitoring	(a) Does the proponent develop and implement monitoring program for the environmental items that are considered to have potential impacts?	(a) :Y	(a) The monitoring programme for every potential negative impact items is prepared during construction and operation phases. *(Source ; Chapter 7)*
		(b) What are the items, methods and frequencies of the monitoring program?	(b): Y	(b) Monitoring Program including area of monitoring, number of sampling, stations & locations, frequency of sampling, parameters to be analyzed, responsible agency and relevant standards are arranged in the tables during operation and operation phase. *(Source ; Chapter 7)*
		(c) Does the proponent establish an adequate monitoring framework (organization, personnel, equipment, and adequate budget to sustain the monitoring framework)?	(c):Y	(c) The monitoring framework is given as follows; - The monitoring parameters, locations and frequency are arranged in the Tables. - Impact monitoring shall be carried out by TPCL and Contractor(s), with periodic verification by an independent third party, taking into account all concurrent works contracts. - During construction and operation phases of the project, the cost of mitigation, management and monitoring shall be met from the budget of the project. - Detailed organization structure, members, and allocation of funds are not prepared in this stage. *(Source: in section 7.1.1, 7.2, 7.3, 7.4 and 7.5)*
		(d) Are any regulatory requirements pertaining to the monitoring report system identified, such as the format and frequency of reports from the proponent to the regulatory authorities?	(d):Y	(d) It is proposed to have regular meetings, once in every three months during construction phase and once in very six months during operation phase, in order to review the monitoring. In areas of potential conflict, the EMC (Environmental Monitoring Committee) will have responsibility to resolve such issues. Reporting formats are not defined.
6 Note	Reference to Checklist of Other Sectors	(a) Where necessary, pertinent items described in the Power Transmission and Distribution Lines checklist should also be	(a):N	(a) This project is not including installation of electric transmission lines and/or electric distribution facilities.

Category	Environmental Item	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
		checked (e.g., projects including installation of electric transmission lines and/or electric distribution facilities).		
		(b) Where necessary, pertinent items described in the Ports and Harbors checklist should also be checked (e.g., projects including construction of port and harbor facilities).	(b): N	(b): This project is not including construction of port and harbor facilities.
	Note on Using Environmental Checklist	(a) If necessary, the impacts to transboundary or global issues should be confirmed (e.g., the project includes factors that may cause problems, such as transboundary waste treatment, acid rain, destruction of the ozone layer, and global warming).	(a):Y	(a) The estimated emissions from Trincomalee Thermal Power Plant would be 4135.4 $GgCO_2$ (Gg=1000 Tonne) per annum from the entire plant. Compared to global emission inventory this emission is negligibly small (less than 0.02% of total emission of CO_2 from Annex-I countries in 2012 and less than 0.06% of total emission of CO_2 from Non-Annex-I countries in 1994, the last reported year). Sri Lanka, being a developing country and a Non-Annex-1 country party to the UNFCCC, has no quantified emission reduction targets for CO_2. Sri Lanka's contribution to the emission of green house gases is negligible as compared to the rest of the world.. TPCL will comply with the national directives/ policies/ standards related to the emission of Green House Gases and Climate Change. *(Source: Chapter-4, page-80, Section 4.2.5)*

Note;

1) Regarding the term "Country's Standards" mentioned in the above table, in the event that environmental standards in the country where the project is located diverge significantly from international standards, appropriate environmental considerations are requested to be made. In cases where local environmental regulations are yet to be established in some areas, considerations should be made based on comparisons with appropriate standards of other countries (including Japan's experience)

2) Environmental checklist provides general environmental items to be checked. It may be necessary to add or delete an item taking into account the characteristics of the project and the particular circumstances of the country and locality in which it is located.

Source;

Drafted by the Team in accordance with follows;

i) Environmental Checklists, No.2 for Thermal Power Station, defined in the JICA Guidelines for Environmental and Social Considerations (JICA, April 2010) and,

ii) Environmental Impact Assessment Report for Trincomalee Thermal Power Project (2 x 250 MW), January, 2015