

PROGRAM SAFEGUARD SYSTEM ASSESSMENT

A. Program Environmental and Social Impacts and Risks

1. This document summarizes the findings of the PSSA undertaken for proposed SRI: TVET Sector Development Program (the Program). The PSSA examined environment and social safeguard management and compliance aspects of the TVET system with a view to ascertaining whether it is congruent with the safeguard policy principles of the SPS (2009). It also conducted a safeguard gap analysis so that the Program could address them in the Program's Environmental and Social Management Framework (ESMF) which is being formulated. The PSSA also examined whether TVET system is capable of managing safeguard risks and promoting sustainable development.

2. Sri Lanka's TVET system needs revamping in order to meet the economy's changing human resource needs. In this regard, key challenges are: (i) failure to provide appropriate skill training to new labor market entrants, (ii) the lack of middle-level skills training for technicians, (iii) low market responsiveness, (iv) limited programs and the absence of a flexible delivery system, (v) outdated national vocational qualification framework, (vi) the lack of qualified instructors, and (vii) the low capacity of TVEC for quality assurance.

3. The MYASD is the focal ministry for skill development with the help of several other ministries and institutions. The TVET sector will benefit from better coordination and planning capacity development in aligning skill training efforts with financial resources, market demand, and national priorities. The National Human Resource Development and Employment Policy (2012) outlines GSL's commitment to skills development and expansion. To operationalize this commitment, in 2013, the Department of National Planning adopted the first sector-wide, medium term development program - the Skills Sector Development Program, 2014 to 2020. The SSDP focuses on providing an efficient skills education system to meet local and foreign labor market demands by 2020. It generates for school leavers and secondary school graduates an alternative to higher education, and a pathway to gainful employment.

4. The Program will have 04 key result outputs, namely, improved quality of TVET (output 1); enhanced industry partnership for TVET planning and implementation (output 2); increased participation and improved equity in TVET (output 3); and improved sector management to implement policy, institutional, and operational reforms (output 4). Output 2 and 3 include refurbishment and enhancement of college buildings and the construction of new buildings.

5. The PSSA indicated that environmental impacts of the Program would be minor and site specific, and mitigation measures can be built into EMPs of subprojects to address them satisfactorily. Environmentally sensitive locations will be avoided in implementing Program activities. The PSSA reconfirmed the Program's initial categorization of environmental impacts as category 'B'. In case of involuntary resettlement safeguards, the PSSA found that resettlement impacts of the Program are insignificant. The refurbishment of existing physical infrastructure facilities will take place within college premises. Most of new buildings constructed under the Program will also be located within college premises as they, in general, own large areas of land which are kept vacant for future expansion. A few new buildings will be constructed on land obtained from the state or from other government agencies. Government lands are of two types: (i) state land that has already been handed over to various ministries and agencies, and (ii) state land not yet given to any ministry, department or agency, but remains with the Central Government. The Program will negotiate with ministries, departments and agencies that possess excess government land and the Central Government to obtain land

required for new buildings. In both cases, MYASD had assured ADB that all such land that will be obtained for new buildings will be without any encumbrances such as squatting and encroachment, or any public easement. Such land will be free to start construction upon receipt. PSSA reconfirmed the initial categorization of resettlement impacts as category 'C'. The Program will not have any impact on indigenous peoples who live in a few small and scattered pockets in forest areas of the Eastern Province of Sri Lanka. The colleges and new buildings will be at urban centers far away from their habitats. Based on this finding, the PSSA reconfirmed the initial categorization of impacts on indigenous peoples as category 'C'. The confirmation of initial categorizations of environment and involuntary resettlement impacts and of impacts on indigenous peoples will not, however, exclude the screening and categorization of each subproject for such safeguard impacts using the guidelines and checklists that will be provided by the Program's Environmental and Social Management Framework (ESMF), which is being developed by the Program with the assistance of the World Bank. MYASD will invite ADB to review the draft ESMF and check whether or not it meets the ADB's safeguard policy requirements. The final ESMF of the Program will reflect ADB's comments and recommendations.

1. Environmental Impacts and Risks

6. The refurbishment of colleges and the construction of new buildings at college sites could cause the following environmental impacts and risks.

- (i) **Site clearance and preparation.** The sites for the extension of TVET centers do not pose any environmental risks regarding site clearance, as they are already in use. In case of new sites, there can be risks such as drain and waterway blocking during site clearance. Vegetation not properly disposed of could also spread invasive species causing environmental degradation. Pools of stagnant water could generate health risks by creating vector populations. Site clearance could also lead to or aggravate soil erosion, especially during the rainy season.
- (ii) **Noise generation.** Refurbishment and construction of structures cause noise especially when demolishing buildings and loading and transporting materials.
- (iii) **Dust generation.** Demolition of buildings will cause dust. Loading and transportation of debris increased dust level. Transportation and storage of new building material also generate dust. Dust pollution poses health hazard to students and residents in the vicinity.
- (iv) **Transport.** Transportation of building material to and from the site will create noise, dust and disturbances, and can cause injury to children and damage college property, if not adequately managed.
- (v) **Occupational hazards to construction workers and students.** Construction workers are exposed to occupational hazards, if proper safety procedures are not followed. At TVET centers, some training activities can cause occupational hazards, especially related to the use of sharp objects, hazardous liquids and compounds, and noise generation equipment. Such hazards were noted and pointed out during the field visits.
- (vi) **Lack of drainage leading to soil erosion, sedimentation, and health hazards.** Gravel, sand, and soil brought in to sites for building constructions or

resulted from demolitions might, if not properly handled, be washed off to nearby streams, paddy lands and low-lying areas, and wetlands. This can cause sedimentation blocking natural flows of water and degrading habitats.

- (vii) **Contamination of groundwater and surface water.** Wastewater can contaminate drinking water sources through runoff, if not appropriately channeled into disposal pits or other suitable areas. This risk is particularly high when the waste water comes from school laboratories and toilets. They were noted during and pointed out during field visits.
- (viii) **Waste generation.** Any construction will generate construction debris which unless disposed off appropriately and in a timely manner, will pollute adjoining areas, including potentially sensitive sites and residential areas. The lack of proper construction waste disposal could also block natural drainage systems and create breeding grounds for waterborne diseases. The planned upgrade of science laboratories can also create a risk as they would increase the quantities of hazardous waste and organic waste. However, the estimated quantities will be very low since any hazardous materials will be used only for training purposes. The lack of appropriate mechanisms to dispose hazardous and toxic waste produced during the construction and operation stages of the proposed facilities of the Program at TVET centers and municipal levels could lead to the contamination of soil and water resources.
- (ix) **Resource extraction.** The planned refurbishment and extension of college physical infrastructure will require materials such as sand, clay for bricks, and timber. This will place a burden on natural resources. However, given the nature of works envisaged, these implications are not likely to be significant.
- (x) **Damage to aesthetics of site and/or area.** Refurbishment and extension of college buildings could have some impacts on aesthetic and scenic characteristics of colleges and their environs. Anticipated disturbances to current aesthetics will be temporary and limited to construction phase. At new sites, the risk of damage is high, if new structures are not consistent with college architectural customs.
- (xi) **Stressed sanitary conditions.** Inadequate and nonfunctional washing and toilet facilities expose college students to health risks. A shortage of clean drinking water will result in dehydration. During field visits such risks were noted and college authorities were informed. At new sites, stressed conditions will be accentuated unless the sites are planned to avoid shortages of clean water supply.
- (xii) **Lack of adherence to set standards.** During field visits, a limited number of science laboratories were found which do not meet occupational health and safety standards such as provision of adequate safety equipment, and chemical disposal processes. These risks were noted and pointed out to college managers.
- (xiii) **Lack of maintenance in developed infrastructure.** The lack of adequate funds to maintain training centers leads to their rapid deterioration.

7. The short-term construction-related impacts and risks and safeguard risks outlined above can be prevented or at least mitigated by adopting standard operational procedures and good construction management practices. Such adoption will require sufficient funds and their proper management. These procedures must be outlined in the Terms of Reference of an Initial Environmental Examination Report. A sample Environmental Management Plan (EMP) covering environmental impacts and corresponding mitigation measures is provided in Appendix 5 to assist the formulation of site specific EMPs.

2. Social Impacts

8. The Program will bring distinct and clear benefits to the communities where the colleges are located in particular, and to the regions in general.

- (i) **Local Development.** The refurbishment and extension of college buildings and the construction of new buildings under the Program will not generate some temporary health or access problems to colleges and noise pollution. These adverse impacts will be dealt with through mitigation measures outlined in the EMP of the Program. The Program-initiated physical infrastructure facilities will benefit students and generate more income sources such as catering food and transportation for local communities. The upgrade of colleges will increase land values and would generate demand for accommodation and other facilities such as bookshops and food centers.
- (ii) **Promotion of Social Cohesion.** The Program will increase cohesion among different ethnic groups as the Program will enrol more students from different parts of the country to follow courses.
- (iii) **Promotion of Gender Equity.** The Program will increase the gender balance since the Program is designed to encourage both male and female students to enrol in courses at colleges. This is guaranteed by the Women's Charter of the GSL (1993).
- (iv) **Regional equity.** The Program will improve regional equity since it will distribute various courses and skill program packages widely among colleges in all regions of the island.

B. Safeguard Policy Principles Triggered

1. Environmental Safeguard Policy Principles

9. The Program is likely to trigger the following environment safeguard policy principles: project screening and categorization (1), environmental assessment (2), environmental management plan (4), consultation and grievance redress (5), disclosure of planning instruments (6) monitoring and reporting (7), pollution prevention (9), and occupational and community health and safety (10) of the Environmental Policy component of the SPS (2009) except the following three principles:

- (i) Principle 3: Examine alternatives to the project's location, design, technology, and components and their potential environmental and social impacts and document the rationale for selecting the particular alternative proposed. Also consider the no project alternative.

- (ii) Principle 8: Do not implement project activities in areas of critical habitats. If a project is located within a legally protected area, implement additional programs to promote and enhance the conservation aims of the protected area. In an area of natural habitats, there must be no significant conversion or degradation, unless (i) alternatives are not available, (ii) the overall benefits from the project substantially outweigh the environmental costs, and (iii) any conversion or degradation is appropriately mitigated.
- (iii) Principle 11: Conserve physical cultural resources and avoid destroying or damaging them by using field-based surveys that employ qualified and experienced experts during environmental assessment. Provide for the use of “chance find” procedures that include a pre-approved management and conservation approach for materials that may be discovered during project implementation. This principle is unlikely to get triggered as the Program locations have already been used for college buildings.

10. A gap analysis distilled from the comparison between environmental safeguard principles of SPS and current status of safeguard compliance of the TVET system is given in Appendix 1.

C. Diagnostic Assessment

1. Assessment Methodology and Resources

a. Desk Review of Documents

11. A desk review was undertaken as part of PSSA to review relevant policy documents, baseline reports, assessments, and monitoring and evaluation reports of the TVET system. The key documents reviewed are: Mahindra Chintanaya: Vision for the Future; and Public Investment Strategy of 2013 issued by the Ministry of Finance and Planning, World Bank’s study (2013) on Sri Lanka: Building the skills for Economic Growth and Competitiveness, and the Skills Sector Development Program issued by the Department of National Planning. The review also examined various policies, laws and regulations pertaining to environment and social safeguards. Among them are the National Environmental Act (NEA) (1980) and its 1988, 1993, and 2000 amendments, Land Acquisition Act of 1950, National Involuntary Resettlement Policy of 2001, National Compensation Policy of 2008 and its regulations approved in 2010.

b. Consultations

12. Consultations with MYASD, its affiliated institutions and college managers revealed the importance of safeguard policy application in Program activities (Appendix 3). The consultations provided a good view of current conditions, problems, aspirations, and possibilities of realizing safeguard compliance. The consultations generally indicated that although environmental and social safeguard compliance has been recognized as a priority task, its implementation is very limited and at best, *ad hoc*.

13. The MYSAD highlighted several main environmental issues that receive special attention at college premises and also in training courses. Among them are labor safety, water pollution and disposal of waste material. It also emphasized that because of the lack of resources such issues often do not receive full attention of college management. Some key such activities are:

- (i) Better ventilation in college class rooms (installations are expensive therefore cannot follow best practices);
- (ii) Segregation of solid waste (colleges expect local government to segregate waste generated in colleges but lack of a waste segregation program at local governments impedes this important activity);
- (iii) Better sanitation conditions (at several colleges visited, emptying of septic tanks is practically impossible because tank lids are partially covered with other constructions. Where lids could be opened, the local governments do not provide a place to discharge the contents).

14. Consultations were held with communities and other stakeholder who will be affected by construction and expansion programs at colleges. They are aware of temporary disturbances and health risks. They support refurbishment and expansion of college facilities. They believe that such developments would benefit the area and increase the value of their property. No community visited is of the view that their land and other property would be affected by the Program activities.

c. Field Visits

15. 16 colleges and National vocational Training institute were visited as part of the assessment (Appendix 4). Field visits confirmed most of the findings of the consultations. Some key issues observed and discussed during visits are:

- (i) Seepage of septic tanks during floods and difficulties in opening them due to constructions on their lids;
- (ii) Drainage problems, especially during rainy season;
- (iii) Difficulties in segregating solid waste— difficulty in getting assistance from municipality offices. Some colleges use colored bins to segregate solid waste;
- (iv) Lack of systematic collection of potential hazardous waste from college premises;
- (v) E-waste is a fast growing problem at colleges. Local governments do not have resources or knowhow to handle e-waste in appropriate manner.

16. Most Colleges had sign boards emphasizing "Safety First" and wall charts with pictures explaining workers' safety issues. However, at no college the consultants found any industrial safety arrangements like eye protectors, gloves, covered saw blades, and protective footwear. At a few colleges visited, "home-made" electrical installations were noted which do not meet formal standards.

d. Safeguard Policy and Regulatory Framework

17. In Sri Lanka, policy and regulatory framework applicable to safeguards has two components, namely, (i) environmental protection laws and procedures, and (ii) land acquisition law, resettlement and rehabilitation policies and guidelines. These two components interact and share several safeguard principles found in international best practices in safeguard compliance. The 2010 Regulations of the Land Acquisition Act bring together the best practices found in both components pertaining to involuntary resettlement.

2. Environment

a. Laws and Regulations

18. The National Environmental Act (NEA) of 1980 is the main law for environmental protection which was subsequently amended by Act No. 47 of 1980, Act No. 56 of 1988, and Act No. 53 of 2000. In 1983, a provision for conducting an environmental assessment of development projects was included in NEA. The NEA also provides conservation and development guidelines for natural resources, including water, forest, flora, and fauna. The NEA is also supported by the 13th Amendment to the Constitution of Sri Lanka, Pradeshiya Sabha Act No. 15 of 1987, State Land Ordinance Act No. 13 of 1949, National Water Supply and Drainage Board Law No. 2 of 1974, National Policy for Rural Water Supply and Sanitation 2001, Prevention of Mosquito Breeding Act No. 11 of 2007, Urban Development Authority Law, No. 41 of 1978 (as amended by Act No. 70 and subsequent amendments), Coastal Conservation Act of 1980 and its amendments, Municipal Council Ordinance Act No. 29 of 1947 (amendment Act 18 of 1979 and subsequent amendments), and Urban Council Ordinance 61 of 1939 (Acts 13 of 1979 and subsequent amendments). Other sector-specific environmental policies and laws related to environmental protection such as Water Management Law and Pollution Control Law become applicable depending on specific site situations. The policies, laws, and regulations governing environmental protection provide a satisfactory framework for environmental safeguard compliance of the Program.

b. Enforcement, Review and Grievance Redress

19. At the state level, the Central Environment Authority (CEA) is the key approval and enforcement institution of environmental safeguard requirements. The CEA has provincial offices; but they often lack resources to carry out safeguard compliance functions. The CEA appoints a project approving agency (PAA) for each project which falls under the 'prescribed project' list. The PAA will prepare TOR for environmental assessment (EA) after holding 'Scoping' meetings to determine whether the assessment should be an EIA or IEE. The PAA is the government authority responsible for administering EA.

20. The CEA is the apex agency which oversees the application of NEA and the adoption of good environmental practices in preventing environmental degradation and pollution in projects and programs. Advice, return of planning documents for revision, demand for more information and data, suspension, cancellation and indictment against polluters are some of the powers that NEA has to deal with safeguard non-compliance.

21. Complaints pertaining to environmental adverse impacts are initially dealt with by project authorities. If project authorities fail to resolve, the complaint is referred to the provincial CEA offices with the help of line department and agencies. Delays in completion of hearings are frequently noted. Resorting to the court system for redress is always an option available to a grieved party. The CEA receives some 10,000 complaints from the public every year. The complaints mainly relate to dust, noise, and water pollution arising from industrial or commercial activities. The CEA has not received any complaint against the TVET system. A few grievances, in each year, reach the Court of Appeal for arbitration.

22. A grievance redress mechanism (GRM) is part of any project supported by international and regional development agencies such as the World Bank, IFC, ADB and JBIC. The GRM is a bottom-up multi-tiered structure starting from the division level to district and to national level. The local environmental regulatory framework does not provide for an institutionalized GRM

other than the web based complaint window at the Government Information Centre. Complaints are recorded and disposed by district offices and several such complaints are arbitrated by CEA in Colombo. The proposed ESMF of the Program will establish at district level and outline procedures of its establishment, functions, powers, membership and budget.

23. The environmental policies, acts and regulations comprise a national framework for environment protection and sustainable development. It provides sufficient and comprehensive legal framework to address and mitigate identified potential safeguard risks associated with the Program and to comply with ADB's environmental safeguard policy requirements.

3. Involuntary Resettlement

a. Policies, Laws and Regulations

24. The key legal instruments pertaining to land acquisition and resettlement are the Land Acquisition Law of 1950 (LAA) and the National Involuntary Resettlement Policy of 2001 (NIRP). In 2008, Ministry of Land and Land Development (MLLD) formulated the National Compensation Policy (NPPC) to recognize several international best practices pertaining to involuntary resettlement such as the payment of market value of property acquired and the entitlement of non-titled land users to receive compensation and resettlement assistance. In 2010, the Parliament of Sri Lanka approved the detailed Land Acquisition and Compensation Regulations which updated regulations of LAA and incorporated resettlement best practices in NIRP and NPPC into the procedures of land acquisition, compensation, grievance redress and resettlement. A recent ADB technical assistance (TA 7566) assessed both the 'equivalence' and 'acceptability' of the national land regulatory framework based on NIRP and NPPC, LAA, their regulations and court decisions (which set precedent for future arbitration on land acquisition disputes, compensation and rehabilitation issues). The MLLD published the new land regulatory framework – Land Acquisition and Implementation of the National Involuntary Resettlement Policy, A Guide for Public Officials on Good Practices. The TA found a high level of congruence (80 to 85%) between the current land regulatory framework and the involuntary resettlement best practices enshrined in the SPS (2009). The MLLD will initiate the process to incorporate these policies and regulations into the Land Acquisition Act. Some key areas that need further legal consideration are income improvement of the poor and vulnerable APs, monitoring and assessment of resettlement outcomes and their impacts, and disclosure of resettlement planning documents.

25. The TA also conducted several stakeholder workshops to discuss the revised and improved land regulatory framework, identify gaps, if any, in the regulatory framework, share knowledge on how to apply it to development interventions. The new regulatory framework superseded all *ad hoc* and special compensation and resettlement and rehabilitation packages followed by different Ministries. The Secretaries of Divisional administration took part in special training programs to learn the new regulatory framework, discuss their problems and difficulties in using it in some areas and the budgetary and other resource constraints.

b. Enforcement, Review and Grievance Redress

26. Procedures for land acquisition, compensation payment and relocation are managed by the Ministry of Land and Land Development (MLLD), concerned Ministry, Valuation Department, Survey Department and local government agencies. Both MLLD and CEA review resettlement plans. Land acquisition and compensation programs are initiated and completed at the Divisional (sub-district) level with a few cases on appeal reach the Review Board or courts.

27. A grievance redress mechanism is built into the NIRP and 2010 Regulations. The mechanism is applicable to all project and programs regardless of the sources of finance. As in case of environment, the GRM is a bottom up multi-tiered structure from the divisional level to state-level. The membership, powers and duties of GRM change from project to project. The projects which are sponsored by international or regional development agencies usually display a keen interest in GRM. Records of GRMs are kept and sometimes use in higher level arbitration and court cases. Any grieved party could seek courts' assistance to redress its grievance.

28. While the policy and regulatory frameworks for environmental and social safeguards are satisfactory, weak institutional capacity, particularly among local authorities, is an impediment to effective implementation of safeguard requirements. This issue will particularly be addressed under the Program by developing a comprehensive ESMF and through the Action Plan (see Appendix 2). The ESMF will provide guidelines, tools, and assessment methodologies to screen and identify safeguard impacts of subprojects of the Program, prepare appropriate plans, implement them and monitor them and establish GRMs.

c. Responsibility for Safeguard Compliance of the Program

29. The management of the TVET system including safeguard compliance is the responsibility of MYASD. MYASD and its affiliated institutions have persons who deal with safeguard, particularly environment safeguard issues. At the college level, there are no designated functionaries for safeguard application and compliance. Those who are designated to ensure safeguard compliance are generally dedicated personnel, but their activities are thwarted by the lack of resources and multitude of activities that they attend to daily.

30. There are no systematic training and awareness creation and enhancement programs at any level with regard to safeguard application and compliance. There were some safeguard training of staff under other programs but it remains uncertain what practical and long-term impacts that they have had on daily operations of TEVT institutions and colleges. (See section D and Appendix 2 for details.)

D. Safeguard Program Actions

31. The PSSA shows that national safeguard policy and regulatory frameworks can ensure effective application of environmental and involuntary resettlement safeguards in the formulation and implementation of safeguard planning instruments. However, there is a safeguard planning and implementation risk arising from the low level of awareness and capacity among TEVT personnel, teachers and college managers regarding safeguard principles and their application. These capacity deficiencies and weaknesses in applying safeguards at the national and district levels need to be overcome through the support of the Program.

32. The MYASD will establish a 'safeguard cell' at its headquarters with at least two qualified and experienced safeguard specialists who will act as the focal persons for safeguard aspects of Program's subprojects. The safeguard cell will be supported by safeguard personnel appointed at affiliated institutions and colleges. The safeguard cell will mainstream safeguard requirements for all activities of the Program and make critical interventions to facilitate safeguard compliance of all Program activities. The cell will formulate outlines of safeguard planning instruments which will be followed by all subprojects, that is, colleges and local government agencies, in applying and approving building permits and implementing enhancement and construction of activities of the Program.

33. Screening for environmental and social safeguard impacts and the formulation of appropriate safeguard planning instruments could be outsourced. However, the Safeguard cell at MYASD will remain responsible for their quality, implementation and monitoring. The database at MYASD should hold all important safeguard data which are easily assessable for planning and monitoring of safeguard compliance.

34. A meaningful consultation and interaction between each college and its nearby communities are to be established. The planning of remedies and mitigation measures for environmental impacts can be done in consultation with the communities. This would enhance the ownership of such mitigation measures by the communities. In this regard, the establishment of GRM at each subproject level is also helpful. The proceedings of complaints and the outcome of inquiries are to be recorded and shared with the grieved parties.

35. Knowledge sharing and training programs will be the key vehicle of increasing awareness of safeguards among MYASD, its affiliated institutions, local governments and colleges. Training programs will be prepared by the 'safeguard cell' in consultation with SLRM and participating agencies in the Program. As part of training, handbooks, manuals, checklists and safeguard plan templates will be prepared in Sinhala and Tamil and distributed among MYASD, its affiliated institutions, local government offices, and colleges. (See Appendix 2 for details.). This activity could be outsourced. It is necessary to update training manuals and handouts periodically by including the safeguard planning and compliance experiences.

36. The lack of coordination between MYASD and private sector is a key issue that needs attention of MYASD and its affiliated institutions. Establishment of a robust arena for such an interaction would facilitate the transfer of current industrial standards from the private sector to TVET sector. Moreover such interaction and coordination would benefit college students who aspire to enter the employment market. Both parties would also benefit from sharing of safeguard best practices and experience in their development programs.

ASSESSMENT OF TVET SAFEGUARD SYSTEM AGAINST ADB'S SPS ENVIRONMENTAL SAFEGUARD PRINCIPLES

SPS Policy Principle	Triggered by the Program	Gap Analysis	
		Congruence Between TVET System and SPS Environmental Safeguard Requirements	Assessment of Implementation Capacity
1. Use a screening process for each proposed project, as early as possible, to determine the appropriate extent and type of environmental assessment	Yes	The NEA prescribes an IEE when a project is proposed at a new location or in a sensitive area. This is a limited scope and the Program will have first to screen and categorize environmental impacts of each subproject and then to prepare an IEE or EIA as appropriate. ESMF will provide necessary guidelines for the Program.	The low level of institutional capacity at the municipal level and at MYASD, its affiliated institutions and colleges pose a risk that screening and categorizing procedures may not be consistently applied. The capacity and management improvement are needed at all levels.
2. Conduct an environmental assessment for each proposed project to identify potential direct, indirect, cumulative, and induced impacts and risks to physical, biological, socioeconomic and physical cultural resources in the context of the project's area of influence.	Yes	See above. PSSA shows a few environmental impacts and no involuntary resettlement impacts. However, the Program will have to prepare IEEs for all category B subprojects following SPS guidelines. NEA requirements and guidelines in this regard are too limited.	The environmental impacts noted at colleges during field visits were minimal. However, there is a need to improve environmental management at MYASD, affiliated institutions and colleges in order to supervise construction activities. While there is a high awareness among all stakeholders about potential negative environmental impacts, more training and capacity building are needed to undertake assessment using the checklists for systematic identification of specific impacts.
3. Examine alternatives to the project's location, design, technology, and components and their potential environmental and social impacts and document the rationale for selecting the particular alternative proposed. Also consider the no project alternative.	Yes	Not applicable to the Program's college refurbishment activities as it will have all construction works at current sites. If new sites outside the college premises are selected for construction this principle would trigger.	See above.

SPS Policy Principle	Triggered by the Program	Gap Analysis	
		Congruence Between TVET System and SPS Environmental Safeguard Requirements	Assessment of Implementation Capacity
4. Avoid, and where avoidance is not possible, minimize, mitigate, and/or offset adverse impacts and enhance positive impacts by means of environmental planning and management. Prepare an EMP that includes the proposed mitigation measures, environmental monitoring and reporting requirements, related institutional or organizational arrangements, capacity development and training measures, implementation schedule, cost estimates, and performance indicators.	Yes	See note on Principle 1 above. Each subproject with environmental impacts will require an IEE/EIA and an EMP. The NEA requirements and guidelines are limited. The Program's ESMF will have to give comprehensive guidance in this regard. The attachment 5 provides a sample EMP.	During consultations and field visits, it was observed that some mitigation measures included in previous Programs have not been fully implemented at the college level. The main areas where mitigation had not been fully accomplished include water and sanitation, hazardous waste management, provisions for laboratory safety, and health and safety measures during constructions. Management of mitigation measures needs to be addressed during the planning phase and during supervision of works.
5. Carry out meaningful consultation with affected people and all other stakeholders. Continue consultations during project implementation	Yes	Consultations are part of IEE/EIA formulation and approval under NEA. Consultation during implementation of a project is not prescribed by NEA. This aspect needs emphasis in the ESMF. Also the coverage of all stakeholders is to be emphasized.	There is no institutional vehicle to ensure consultation with all stakeholders. This needs development as part of capacity development.
6. Disclose a draft environmental assessment (including the EMP) in a timely manner, before project appraisal, in an accessible place and in a form and language(s) understandable to affected people and other stakeholders. Disclose the final environmental assessment, and its updates if any, to affected people and other stakeholders.	Yes	TVET System does not have this requirement. Therefore SPS principle and guidelines apply. ESMF has to develop this requirement fully.	To enable MYASD, its affiliated institutions, and colleges to ensure timely disclosure of safeguard processes and documentation in local languages, it is necessary to build institutional capacity through training. This is also recommended for the Municipal Engineering Departments that will handle the Building Permit applications.
7. Implement the EMP and monitor its effectiveness. Document	Yes	Limited scope in TVET system to monitor the EMP implementation and formulation of corrective actions, if	EMPs are currently seldom parts of the contract documents in the Building

SPS Policy Principle	Triggered by the Program	Gap Analysis	
		Congruence Between TVET System and SPS Environmental Safeguard Requirements	Assessment of Implementation Capacity
monitoring results, including the development and implementation of corrective actions, and disclose monitoring reports.		required. The ESMF will elaborate and provide guidance on this aspect.	Permit process. Hence, the probability that contractors follow good Safeguard practices is low. Training and capacity building is needed on the implementation of the EMP, particularly at the Municipal Engineering Departments which handles Building Permit applications.
8. Do not implement project activities in areas of critical habitats. If a project is located within a legally protected area, implement additional programs to promote and enhance the conservation aims of the protected area. Use a precautionary approach to the use, development, and management of renewable natural resources.	No	Not applicable for the TVET System If new sites are considered, the sites will always be on government land. Hence, no development will be planned in sensitive areas, as CEA will not approve such proposals without special precautions and requirements	

SPS Policy Principle	Triggered by the Program	Gap Analysis	
		Congruence Between TVET System and SPS Environmental Safeguard Requirements	Assessment of Implementation Capacity
<p>9. Apply pollution prevention and control technologies and practices consistent with international good practices as reflected in internationally recognized standards such as the World Bank Group's Environmental, Health and Safety Guidelines. Adopt cleaner production processes and good energy efficiency practices. Avoid pollution, or, when avoidance is not possible, minimize or control the intensity or load of pollutant emissions and discharges, including direct and indirect greenhouse gases emissions, waste generation, and release of hazardous materials from their production, transportation, handling, and storage. Avoid the use of hazardous materials. Purchase, use, and manage pesticides based on integrated pest management approaches and reduce reliance on synthetic chemical pesticides.</p>	Yes	<p>NEA provides sufficient instructions in this regard. The World Bank Operational Policies and Guidelines for environmental safeguard are well defined how to assess potential environmental impacts and also what is required by the contractor how to use the EMP. ESMF will have to elaborate this further</p>	<p>The general recommendation for more training and capacity building for all stakeholders involved is valid also for this item.</p>
<p>10. Conserve physical cultural resources and avoid destroying or damaging them by using field-based surveys that employ qualified and experienced experts during environmental assessment. Provide for the use of "chance find" procedures that include a pre-approved management and</p>	No	<p>Not applicable to the Program. If new sites are considered, the sites will always be on government land. Hence, no development will be planned in a sensitive or "unexplored" area.</p>	

SPS Policy Principle	Triggered by the Program	Gap Analysis	
		Congruence Between TVET System and SPS Environmental Safeguard Requirements	Assessment of Implementation Capacity
conservation approach for materials that may be discovered during project implementation.			
11. Provide workers with safe and healthy working conditions and prevent accidents, injuries and disease. Establish preventive and emergency preparedness and response measures.	Yes	The local laws and procedures cover these aspects. Field visits showed partial fulfillment of these requirements at colleges.	The implementation is poor due to lack of proper training, financial resources. Need better training on safety of workers and communities and resources to buy equipment and maintain them,

ACTION PLAN

Identified Gap	Proposed actions	Indicators / targets	Responsibility	Target groups	Time frame
The lack of training on environmental and social safeguards and their implementation at all levels of MYASD and local governments.	<ul style="list-style-type: none"> a) Institutional capacity building training programs at MYASD and its affiliate institutions. b) The trained personnel act as trainers at the next level, e.g., at college level. c) Assignment of officers at MYASD, affiliated institutions and at colleges responsible for safeguard compliance. d) Distribute safeguard handbooks with checklists e) Creation of a 'Safeguard Cell' at MYASD to coordinate safeguard matters at all levels 	<ul style="list-style-type: none"> a) A 'Safeguard Cell' at MYASD established and a safeguard officer at each of its affiliated institutions appointed. b) An officer trained in safeguards and their compliance at each college. c) Database at MYASD on safeguard issues, performance monitoring. d) Safeguard personnel have TORs and dedicated budgets. e) Booklets in Sinhala and Tamil distributed among all colleges 	<ul style="list-style-type: none"> a) MYASD. b) MYASD and affiliated Institutions c) MYASD or assigned organization. d) MYASD e) MYASD f) MYASD 	<ul style="list-style-type: none"> A) MYASD and Institutions. b) Colleges. c) MYASD, Institutes and Colleges. 	Within 12 months from the Program inception
IEEs and EMPs are not formulated and implemented in building permit process.	<ul style="list-style-type: none"> a) MYASD and its affiliated institutions monitor the formulation and implementation of IEE and EMP. b) IEE and EMP are a precondition for financial support if environmental impacts identified in a subproject. 	<ul style="list-style-type: none"> a) Project screening tools are available at TVET centres b) Standard IEE and EMP templates are adapted and distributed among all affiliated institutions, colleges and local government agencies. c) IEE and EMP prepared for each subproject with 	<ul style="list-style-type: none"> a)MYASD b)Affiliated institutions c) Colleges 	<ul style="list-style-type: none"> Local government agencies Colleges 	Before the commencement of construction works of any subproject.

Identified Gap	Proposed actions	Indicators / targets	Responsibility	Target groups	Time frame
	c) MYASD Safeguard Cell monitors the formulation and IEE and implementation of EMP	monitoring indicators			
Poor or lack of interaction and exchange of safeguard information, requirements of subprojects between MYASD/ institutions and colleges.	Special seminars/workshops for the heads of affiliated institutions/colleges conducted by a safeguard specialist in English, Sinhala and Tamil.	a) Established standard safeguard procedures for the Program b) Program personnel have a common understanding of safeguard requirements c) Records and summaries of training	MYASD Affiliated Institutions	Safeguard personnel of MYASD, Affiliated institutions, and Colleges.	Within six months after the commencement of the Program.
Poor standard of knowledge among college students about safeguard issues and best practices.	a) Lessons on safeguard best practices and their applicability in various TEVT programs included in training programs b) Demonstrations on what happens when safeguards are ignored or not complied with c) Include basic safeguard practices in the college curricula	a) Records of training sessions on Best Practices b) Summaries of key topics, findings and recommendation distributed among colleges in printed and electronic form	MYASD Institutes Colleges	a) College students b) Local government officials	Start during the first 12 months and continue during Program's life.
Lack of arrangements for consultations at preparation and implementation phases of subprojects with all stakeholders	a) Subproject level consultations will be carried out as part of the initial project identification b) College development Committees consult stakeholders during	a) Record of consultation and decisions. b) Record of implementation of decisions c) High participation of community in college	a) College managers b) College Development Committee	a) Communities in the vicinity of colleges b) Local government personnel c) College students	a) During planning phase b) During implementation phase

Identified Gap	Proposed actions	Indicators / targets	Responsibility	Target groups	Time frame
	implementation phase	enhancement activities.			
Lack of training materials in Sinhala and Tamil.	<p>Manuals, handbooks, and checklists to be produced on environment and social safeguard issues.</p> <p>CEA/SLRM ensures the quality and scope of such documents.</p>	<p>a) List of manuals, handbooks, and checklists in Sinhala and Tamil</p> <p>b) Record of distribution of documents among colleges and local governments</p>	<p>MYASD</p> <p>Affiliated institutions</p> <p>SLRM</p>	<p>Trainers at Institutes and Colleges.</p> <p>Students</p> <p>Local governments</p>	Within six months after the Program start.
Lack of coordination between MYASD and the private sector	<p>a. Create interactions between MYASD and private sector institutions on safeguards.</p> <p>b. Share knowledge on safeguards and their implementation</p>	<p>a) Participation of the private sector in college activities to demonstrate current Industrial Standards to students</p> <p>b) Records of sharing of safeguard better best practices and experience.</p>	MYASD.	<p>a) Safeguard Cell personnel at MYASD</p> <p>b) Safeguard personnel at collages</p> <p>c) Private sector personnel</p>	Within two years from the inception of the Program.

CONSULTATIONS WITH PROGRAM STAKEHOLDERS

Day/Time	Office / Place	Persons	Position
Several meetings on different days	MYASD: Ministry of Youth Affairs and Skills Development http://www.youthskillsmin.gov.lk/	Mr. Samantha Wijayasinghe Mr. A.R. Desapriya	Director (Vocational Training) Additional Secretary (Vocational Training)
16 September pm	VTA: Vocational Training Authority www.vtasl.gov.lk	Colonel Dharshana Ratnayake Mr. W.D. Fernando Mr. K.J. Korralage Mr. E.A.D.S. Senarathne	Chairman / CEO Director (Training) Director (Testing and Evaluation) Assistant Director (Construction)
17 September am	DTET: Department of Technical Education and Training www.techedu.gov.lk	MR D.V.P.Y. Kulatunga Mr. WijithaWarnasuriya and others	Additional Director General Deputy Director (Special Projects)
17 September pm	NAITA: National Apprenticeship and Industrial Training Authority www.naita.gov.lk/	Mr G.H. Nilantha de Silva Mr. P.N.K. Dias	Deputy Director (Training) Deputy Director (Quality)
18 September am	NYSC: National Youth Services Council www.srilankayouth.lk/	Mr. Manula Chamal Perera Mr. Tikiri Banda Mr. Ranjith Silva Mr. Rashitha Delapola and others	Director (Administration) Assistant Director (Vocational Training) Assistant Director (Examination) Consultant (International Affairs)
19 September	Public holiday		
20 September am	MYASD: Ministry of Youth Affairs and Skills Development	Mr A.R. Desapriya	Additional Secretary
20 September pm	NIFNE: National Institute of Fisheries and	Mr S.M. Samarakoon Mr. P.U.I. Perera	Director (Finance) Deputy Director (Training)

Day/Time	Office / Place	Persons	Position
	Nautical Engineering (Ocean University) www.ocu.lk	Mr R.P. Abeykoon Mrs. Indunil Senanayake	Engineer Instructor
21 -- 22 September	Weekend		
23 September	Field Trips to seven (7) colleges in Kalutara, Galle, and Matara districts Local Government in Galle	Mr. Prabath Balasuriya Mr. Dhamithe Dissanayahe and others	Director, College of Technology, Galle Municipal Engineer
24 September	Field Trips to eight (8) colleges Hambantota and Ratnapura districts		
25 September am	CEA: Central Environment Authority http://www.cea.lk/	Dr Saranga Alahapperuma	Director General
25 September pm	UNIVOTEC: University of Vocational Technology www.univotec.ac.lk/	Dr T.A. Piyasiri	Vice Chancellor

FIELD VISITS, SEPTEMBER 2013

#	District	College / Organization	Organization	# of students (approx)	Comments
01	Kalutara	Horana	VTA	87	
02	Kalutara	Panapitiya	VTA	34	
03	Kalutara	Kalutara Technical College	DTET	800	
04	Galle	Technical College, Balapitiya	DTET	600	
05	Galle	Urawatta	VTA	30	
06	Galle	College of Technology, Galle	DTET	3,000	
07	Galle	City Engineering Department	Municipal Government, Galle		
08	Matara	Ruhunugama	VTA	35	
09	Hambantota	Weerawila Hotel School	VTA	28	
10	Hambantota	Technical College, Weerawila	DTET	350	
11	Hambantota	Angunakolapelessa	VTA	50	
12	Hambantota	Welipitiya	VTA	24	
13	Rathnapura	Mahaweli Centre, Embiliditiya	VTA	35	
14	Rathnapura	Bodhiraja - Hinguru ara	VTA	54	
15	Rathnapura	Godakawela	VTA	45	
16	Rathnapura	College of Technical, Rathnapura	DTET	1,100	
17	Colombo	National Vocational Training Institute Narahenpita	VTA		

ENVIRONMENTAL MANAGEMENT PLAN (EMP)

	Environmental impacts	Mitigation measure(s)	Monitoring sources	Responsible party(ies)
1. PLANNING PHASE				
a) Forest Land	<p>Damage to vegetation and ecosystems.</p> <p>Contributing to potential flooding.</p> <p>Sedimentation of streams and surface water.</p> <p>Contamination of water supplies.</p> <p>Biodiversity loss.</p>	<p>Design so as to minimize clearing or disturbance.</p> <p>Avoid destroying rare or unique species.</p> <p>Consult with local populations about current use of forest and preferences for preservation.</p>	<p>Evaluation of designs and plans.</p> <p>Observation and reporting.</p>	<p>School Development Committee.</p> <p>Divisional Engineer/TO.</p> <p>Contractor.</p> <p>Forest Department, CEA.</p>
b) Wetlands	<p>Damage to ecosystems</p> <p>Sedimentation of streams and surface water.</p> <p>Contamination of water supplies.</p> <p>Biodiversity loss.</p> <p>Contributing to flooding potential.</p>	<p>Find alternative site. Wetlands and riparian ecosystems (those sited next to a body of water) are extremely sensitive. Wetlands provide important environmental services such as water storage, bird and animal habitat, flood control, and filtering toxins and nutrients from runoff.</p> <p>If no alternative is available:</p> <p>Set back any infrastructure as far as possible from the water body/wetland and minimize the amount of wetland destroyed by infrastructure construction.</p> <p>Re-vegetate as soon as possible.</p>	<p>Evaluation of designs and plans.</p> <p>Observation and reporting.</p>	<p>School Development Committee.</p> <p>Divisional Engineer/TO.</p> <p>Contractor.</p> <p>Sri Lanka Land Reclamation and Development Corporation.</p>
c) Hilly landscape with sloppy terrain	<p>Sedimentation of streams and surface water.</p> <p>Contamination of ground and surface water supplies.</p>	<p>Design facility and apply construction practices that minimize risks, e.g., use sand stacks or hay to control erosion during construction.</p>	<p>Evaluation of designs and plans.</p> <p>Observation and</p>	<p>School Development Committee.</p> <p>Divisional Engineer/TO.</p>

	Environmental impacts	Mitigation measure(s)	Monitoring sources	Responsible party(ies)
	Cause erosion and damage to terrestrial and aquatic ecosystems during construction or use.	Pay particular attention to potential erosion and redirection of water flows during design and construction. Re-vegetate as soon as possible. Maintain design features.	reporting.	Contractor.
d) Site prone to flooding	Be destroyed and/or subject workers or inhabitants to risk of injury or death. Cause environmental damage from accidental release of toxic, infectious or otherwise harmful material during flooding. Contaminate drinking water.	Find alternative site or design infrastructure so it is raised above flood plain, if possible. Design infrastructure to minimize risk, e.g. design with proper grading and drainage. Maintain design features such as drainage structures. Avoid constructing sanitation or other facilities that will use and store harmful materials at flood-prone areas. Chose dry sanitation options or closed disposal systems, instead of wet ones such as septic tanks or detention ponds.	Evaluation of designs and plans. Observation and reporting.	School Development Committee. Divisional Engineer/TO. Contractor
e) Area and/site prone to landslides	Expose workers or inhabitants to risk of injury or death. Cause environmental damage from accidental release of toxic, infectious or otherwise harmful material. Contaminate water supplies.	Find alternative site on stable ground if not possible. Design infrastructure to minimize risk, e.g., plant trees all around facility. Maintain protective design features. Avoid constructing sanitation or other facilities that will use and store	Evaluation of designs and plans. Observation and reporting.	School Development Committee. NBRO. Divisional Engineer/TO. Contractor.

	Environmental impacts	Mitigation measure(s)	Monitoring sources	Responsible party(ies)
		<p>hazardous or bio hazardous materials at landslide-prone sites.</p> <p>If that is not possible:</p> <p>Design storage area so that hazardous materials are stored in leak- proof containers.</p> <p>Chose dry sanitation options or closed disposal systems, instead septic tanks.</p>		
<p>f) Cutting trees for clearing land as well as for materials for reconstruction</p>	<p>Loss of trees and vegetation may lead to:</p> <p>Disaster related issues (i.e. soil erosion, landslides).</p> <p>Lack of ventilation and shading to students and teachers.</p>	<p>Consider alternate options to reduce the loss of trees and vegetation.</p> <p>A green fence will be raised with native tree species around the school/TC.</p> <p>Plant the same species of trees and vegetation as compensatory measures.</p> <p>Minimize use of wood for construction.</p> <p>Use local materials as much as possible.</p> <p>Innovations shall be integrated in the design plan.</p> <p>Make schools more child and environmentally friendly.</p> <p>Contractor shall supply kerosene or LPG at camps and restrict cooking</p>	<p>Trees planted.</p> <p>Progress reports.</p>	<p>Principal.</p> <p>School Development Committee.</p>

	Environmental impacts	Mitigation measure(s)	Monitoring sources	Responsible party(ies)
		and heating using firewood.		
g) Worker welfare facilities at the construction site	Lack of proper worker welfare facilities including toilets, meal room, first aid etc may lead to social issues within the school community and lack of worker satisfaction and safety.	<p>Worker welfare facilities to be included in the design and construction plan.</p> <p>Provision of temporary toilet with washing facility for the construction worker.</p>	Check for such facilities on construction site.	<p>School Development Committee.</p> <p>Divisional Engineer/TO.</p> <p>Contractor</p>
h) Disaster Management	Extreme climate (e.g. cyclone, storm surge) and natural disasters (e.g. earthquake), etc. and fire may cause damages to lives and properties.	<p>Adoption of appropriate adaptation and disaster risk reduction strategy, emergency preparedness and recovery, training/orientation program for teachers and students on climate change, disaster and earthquake, etc.</p> <p>Construction of school/TC with disaster/cyclone shelter to cover the urgent needs of community, student, and teachers.</p> <p>School building located in the cyclone and earthquake prone areas should be designed and constructed in way to be disaster and earthquake resilient or "climate-proof".</p> <p>Create awareness about natural calamities and extreme climate to teachers and students.</p> <p>Fire safety management and mock drill.</p> <p>Ensure emergency equipment and facilities like fire extinguisher/water hose, first aid boxes, whistles,</p>	Disaster Management Plan for the School.	<p>School Development Committee.</p> <p>Principal.</p> <p>Disaster Management Centre</p>

	Environmental impacts	Mitigation measure(s)	Monitoring sources	Responsible party(ies)
		torchlight's etc.		
2. DESIGN PHASE				
a) Provision of health and sanitary services in school	<p>Discharge untreated or insufficiently treated sewage would result in:</p> <p>Contaminates drinking water (ground and surface).</p> <p>Spreads diseases.</p> <p>Degrades aquatic ecosystems.</p>	<p>Number of sanitary facilities complies with Ministry of Education's standards.</p> <p>Obtain building certification standards and requirements of the local authority.</p> <p>Avoid sites where water table is high or underlying geology makes contamination of groundwater likely.</p> <p>Choose dry sanitation options or closed disposal systems instead of wet ones such as septic tanks or detention ponds.</p> <p>Ensure adequate and maintained sanitary facilities. Maintain required ratio of male/female toilets.</p> <p>Maintain the drainage system cleanly without water logging.</p>	<p>Check whether there is building certification for the school sanitary facility.</p> <p>Check whether there is adequate number of sanitary facilities provided with respect to the student population.</p>	<p>School Development Committee.</p> <p>Divisional Engineer/TO.</p> <p>Contractor.</p>
b) Construction of Science Laboratory	<p>Expose workers or student population to toxic, carcinogenic and teratogenic materials such as heavy metals, dyes, solvents, acids, etc.</p> <p>Lack of properly designed disposal mechanisms for chemical waste may lead to contamination of surface and</p>	<p>Design with proper storage, handling and treatment facilities.</p> <p>Avoid site near wetlands or bodies of water.</p>	<p>Review the design plans and inspect the sitting of the building initially.</p>	<p>School Development Committee.</p> <p>Divisional Engineer/TO.</p> <p>Contractor.</p>

	Environmental impacts	Mitigation measure(s)	Monitoring sources	Responsible party(ies)
	ground water resources. Lack of safety measures within the design will lead to fire and increase occupational safety hazards.			
c)Construction of sports grounds	Water logging may subject workers or student to risk of injury or death. Will be a breeding ground for mosquitoes and other vectors due to flooding.	Adopt a well-planned drainage system to avoid water logging. During level and land transformation adopted mitigation measures to avoid dust generation. Take measure to limit particulate emission and noise generation.	Site visit and observation air quality monitoring.	School Development Committee. Initially Divisional Engineer/TO. Contractor.
3. DEMOLITION PHASE				
a)Refurbishment /renovation of school facilities	Spoil material generated would obscure the landscape may be a health risk to the surrounding community and the student population.	Deposal of solid waste according to the guidelines of the local authority. Make arrangements with the local authority for disposal of waste. Demarcate an area for waste collection until deposal within the construction premises and practice waste minimization practices such as recycling and composting.	Spot check and site observations on a quarterly basis.	School Development Committee. Divisional Engineer/TO. Contractor.
b) Safe handling of asbestos	Health and safety hazards with loose asbestos fibers for the workers.	Follow the rules outlined in the NEA. (Guidelines are also provided as part of the ESMF.) Where needed, only bonded asbestos cement sheeting that contains less than 20% of asbestos should be used in any construction		Divisional Engineer/TO. Contractor.

	Environmental impacts	Mitigation measure(s)	Monitoring sources	Responsible party(ies)
		under this project.		
4. CONSTRUCTION PHASE				
<p>a) Expansion of School facilities involving new construction within already existing school premises</p>	<p>Lack of solid waste management on site can lead to the lack of general cleanliness due to waste material resulting from the demolition of old buildings.</p> <p>The waste material would be hazardous to the children’s health and safety (i.e. injuries from corroded metal waste).</p>	<p>Make arrangements with the local authority on disposal of solid waste generated during construction.</p> <p>Observations on cleanliness and good housekeeping practices onsite. Demarcated waste storage area in operation.</p> <p>Under no circumstances should the solid waste be burned on site.</p>	<p>Solid waste storage is demarcated.</p> <p>All construction solid waste removed at end of construction.</p>	<p>School Development Committee.</p> <p>Divisional Engineer/TO.</p> <p>Contractor.</p>
	<p>Dust generation during construction activities may impact workers and community.</p>	<p>Wet down and spray water in construction as required.</p> <p>Take steps to avoid dust emissions during loading and unloading of construction material.</p>	<p>Observations –controlled dust emissions and the spraying of water.</p> <p>Check whether the construction material is stored properly to avoid dust emission.</p>	<p>School Development Committee.</p> <p>Divisional Engineer/TO.</p> <p>Contractor.</p>
	<p>Transportation of construction materials may block the access roads and may lead to accessibility problems.</p>	<p>Construction materials and machinery should not be placed in a manner that blocks any roads, paths or local accesses.</p> <p>Unloading of construction materials should be carried in a manner and time so as to avoid blockage of roads/paths/access.</p> <p>Waste must not be placed on the roads.</p>	<p>Observation and field check.</p>	<p>School Development Committee.</p> <p>Divisional Engineer/TO.</p> <p>Contractor.</p>

	Environmental impacts	Mitigation measure(s)	Monitoring sources	Responsible party(ies)
	Construction noise can disturb surroundings and the school environment.	Conduct work during daytime and if possible during non-school hours. Adhere to noise levels stipulated under NEA and adopt mitigation measures that would be mentioned in the CEA recommendation letter on site based on the each project that will be undertaken.	Noise at boundary should not exceed 55dB (A) or as specified under the NEA.	School Development Committee. Divisional Engineer/TO. Contractor.
	Injury due to lack of occupational safety measures and also health risks.	Workers should adopt necessary safety measures. First aid provisions will be made available on site.	Check for existence of first aid measures in the premises. Check whether the workers are using the safety gear that is provided.	School Development Committee. Divisional Engineer/TO. Contractor.
	Occupational safety issues: Noise generated from cement pre-casting machines concrete, pilling may pose an occupational health issue. Activities such as loading and unloading shuttering and metal poles and handling of heavy objects may result in accidental injury or crushing. In the absence of non-functional sanitary facilities, health issues may arise among the student population.	Train maintenance and operation-staff to monitor and repair machines so that it will increase the efficiency of the machines while reduce the vibration and noise. Noise levels should be maintained within stipulated limits for the construction site. Train the workers on occupational risks involved in lifting heavy construction equipment and occupation risk and safety measures in the project site and environment. Train the workers on managing risks, emergencies anon first aid.	All workers are inappropriate safety attire.	School Development Committee. Divisional Engineer/TO. Contractor.
b) Development of water infrastructure (expected to be	Setting up of a storage facility will require water for worker consumption and potential cleaning	Well should be metered and the Water Resources Board consulted on appropriate extraction levels.	Review water extraction rates and cross check with WRB	School Development Committee.

	Environmental impacts	Mitigation measure(s)	Monitoring sources	Responsible party(ies)
minimal)	of equipment.	<p>Water in the well should be periodically monitored for quality and quantity.</p> <p>To ensure minimal wastage of water, train maintenance and operation staff to monitor and repair leaks from cracked containment structures, broken pipes, faulty valves and similar structures.</p> <p>A suitable sump and overhead tank should be constructed taking into account the daily requirement of water to ensure uninterrupted water supply.</p>	<p>recommendations.</p> <p>Dug wells should maintain at least 2m of water depth to maintain drinking water quality.</p> <p>Periodic water quality testing (also indicated under construction).</p>	<p>Divisional Engineer/TO.</p> <p>Water Resources Board/ NWSDB.</p> <p>Contractor.</p>
	Unprotected wells can lead to safety and health issues.	Dug well(s) within premises should have a protective wall as well as appropriate covering to prevent external material from entering the well.	Well protected water sources in place and maintained.	<p>School Development Committee.</p> <p>Divisional Engineer/TO.</p> <p>Contractor.</p>

	Environmental impacts	Mitigation measure(s)	Monitoring sources	Responsible party(ies)
	Arsenic contamination in drinking water may cause health related problems.	Analyze local surrounding arsenic test results and recommend for tube-wells or not. Adopt rain water harvesting, ponds and filter, piped water supply. After installation of tube-wells, presence of arsenic in the drinking will be tested and be used only if it satisfies the Sri Lanka standards.	Water Quality Test Reports.	School Development Committee. Divisional Engineer/TO. Contractor. Water Resources Board. Medical Officer of Health/PHI.
5. OPERATION AND MANAGEMENT PHASE				
a) Solid waste management Domestic solid waste disposal	Lack of management of domestic waste water may cause health risks and obscure the landscape. Since solid waste collection will not be on a daily basis, there is risk of solid waste piling up on site. These can lead to an increase in vector population and health risks.	Waste is disposed by the Local Authority. Adhere to CEA guidelines of waste disposal applicable to the cement pre-casting industry. Ensure demarcated solid waste storage area with source separation for organic waste and other domestic non-organic waste. This storage facility should be able to accommodate solid waste up to 7days. Certain schools have adopted measures to decompose domestic solid waste by composting or by recycling. Under the environmental conservation activities taken up by	Construction waste disposed of weekly on schedule and in arrangement with the Local Authority. Cleanliness and good housekeeping practices on site. Review solid waste management plan in place and in operation during site visits.	School Development Committee. Divisional Engineer/TO. Contractor.

	Environmental impacts	Mitigation measure(s)	Monitoring sources	Responsible party(ies)
		<p>schools “Environmental Brigades “have been formed to maintain a clean environment within the school premises. Productivity program sponsored by the National Productivity Centre promotes competitions based on 5S concept.</p> <p>However, there has not been a proper assessment on schools which maintain good quality physical environment.</p>		
Domestic liquid waste disposal	Lack of disposal of the domestic waste water will result in health issues to the worker.	Ensure that the domestic wastewater is directed to soakage pits in conformance to local authority guidelines.	Check the design plans for cesspits and soakage pits.	School Development Committee. PHI from the local authority.
Hazardous waste disposal	<p>Lack of a disposal mechanism for chemical waste may lead to pollution of surface water resources and land due to leachate.</p> <p>Potential for increase health risk of students and teacher.</p> <p>Lack of a disposal mechanism for computer and IT-based waste management.</p>	<p>Disposal of chemical waste according to the stipulated guidelines under NEA on Hazardous waste regulation.</p> <p>Explore the private and public partnership on disposal mechanism on the hazardous waste for a nominal fee.</p> <p>Identify a check list and standard mechanism for disposal of hazardous chemical waste.</p> <p>Establish a central deposit for the collection of hazardous waste so that disposal will be easier.</p>	Checking for adoption of existing disposal guidelines and plans.	School Development Committee.
b) A/L and O/L Science Laboratory	Lack of properly designed disposal mechanisms for chemical waste may	Ensure regular maintenance on the gas tubes, taps to ensure the	Checking for adoption of existing disposal	School Development Committee.

	Environmental impacts	Mitigation measure(s)	Monitoring sources	Responsible party(ies)
	<p>lead to contamination of surface and ground water resources.</p> <p>Lack of safety measures within the design will lead to fire and increase occupational safety hazards.</p>	<p>maintenance of the fume cupboards.</p> <p>Provision of safety measures in the design such as good ventilation and thermal circulation.</p> <p>Take measure to install fire extinguishers.</p> <p>Display the laboratory safety manual so that students and teachers can follow.</p> <p>Provision of safety wear - face mask, goggles, noise isolating ear plugs.</p>	<p>guidelines and plans.</p>	
c) Sanitary facilities	<p>Discharge of untreated or insufficiently treated sewage, and due lack of maintenance of sanitary facilities may lead to:</p> <p>Contamination of drinking water (ground and surface).</p> <p>Spreading of diseases among the student population and surrounding community.</p> <p>Degradation of aquatic ecosystems.</p>	<p>Ensure proper maintenance of the sanitary facilities.</p> <p>To ensure proper function and operation, train maintenance and operation staff to monitor and repair leaks from cracked containment structures, broken pipes, faulty valves and similar structures.</p> <p>Provide a suitable sump and overhead tank, taking into account the daily requirement of water to ensure uninterrupted water supply for the sanitary facilities.</p> <p>A minimum distance of 15 m should be maintained between a tube-well and a latrine to prevent contamination of water resources. In case of shallow hand tube-wells, this distance should be 20 m as horizontal filters are used</p>	<p>Observation and site reports to check the proper maintenance of pipes in sanitary facilities.</p>	<p>School Development Committee.</p>

	Environmental impacts	Mitigation measure(s)	Monitoring sources	Responsible party(ies)
		<p>in this type of tube-wells.</p> <p>Provide separate toilets at adequate distance between boys and girls washrooms.</p> <p>Water supply is available in the toilets.</p> <p>One latrine should be designed for about 30 pupils (20 for girls and 40 for boys).</p>		
d) Canteen	Lack of domestic waste management may lead to land and water contamination and increase vector borne diseases and obscure the aesthetic beauty of the school environment and give rise to odor.	Adopt domestic waste management mitigation measures discussed above.	Adopt domestic waste management monitoring measures discussed above.	School Development Committee.
	Lack of training in canteen commodity handling can lead to wastage and hygiene issues.	<p>Provide training in food handling to minimize wastage.</p> <p>Ensure that food handlers maintain personal hygiene and inform the supervisor in case an employee is sick or has an injury.</p> <p>Maintain good house-keeping practices as per the Food hygiene regulations.</p>	Check for compliance and adoption of procedures as indicated under the National Regulation on Food (Hygiene) 2011 under the Food Act, No. 26 of 1980.	School Development Committee. PHI.

CEA = Central Environment Authority, DPHE = Department of Public Health Engineering, ESMF = Environmental and Social Management Framework, NBRO = National Building Research Organization, NEA = National Environmental Act, NWSDB = National Water Supply & Drainage Board, PHI = Public Health Inspector, TO = Technical Officer, WRB = Water Resources Board.

Source: Asian Development Bank.