

Updated Environmental Assessment and Review Framework

Project Number: 46009
April 2014

Cambodia: Proposed Additional Financing to Flood Damage Emergency Reconstruction Project

Prepared by: Ministry of Water Resources and Meteorology
Ministry of Public Works and Transport
Ministry of Rural Development

CURRENCY EQUIVALENTS

(as of 14 February 2012)

Currency unit – riel/s (KR)

KR1.00 = \$0.00024

\$1.00 = KR4,026

ABBREVIATIONS

ADB	–	Asian Development Bank
EARF		environmental assessment and review framework
EIA	–	environmental impact assessment
EMP	–	environmental management plan
IEIA	–	initial environmental impact assessment
IEE	–	initial environmental examination
MEF	–	Ministry of Economy and Finance
MOE	–	Ministry of Environment
MOWRAM	–	Ministry of Water Resources and Meteorology
MPWT	–	Ministry of Public Works and Transport
MRD	–	Ministry of Rural Development
O&M	–	operation and maintenance
PCMU	–	Project Coordination and Monitoring Unit
PIU	–	Project Implementation Unit
SPS	–	Safeguard Policy Statement
UXO	–	Unexploded ordnance

WEIGHTS AND MEASURES

kilometer – km

Millimeter – mm

hectare – ha

NOTE

In this report, "\$" refers to US dollars unless otherwise stated.

This environmental assessment and review framework is a document of the borrower. The views expressed herein do not necessarily represent those of ADB's Board of Directors, Management, or staff, and may be preliminary in nature.

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I. INTRODUCTION

1. Cambodia had experienced serious flooding in September and October 2013 due to flash floods from heavy rains and floods from rivers overflowing, especially in the northwestern provinces of Banteay Meanchey, Battambang, Pailin and Siem Reap where the water is receding slower than expected. The 2013 serious floods have damaged and destroyed agricultures, infrastructures, and have caused loss of life. National roads, provincial roads, rural roads, bridges and irrigation systems have been cut off and seriously damaged. Moreover, the recent flooding has damaged some road sections are ongoing constructed under the Flood Damaged Emergency Reconstruction Project (Loan 2852/Grant 0285-CAM). The Royal Government of Cambodia proposes ADB additional Project in extension of FDERP funded by the Asia Pacific Disaster Response Fund (APDRF)'s assistance. The Project will restore critical public and social infrastructure assets necessary to restore livelihood, access in project provinces that will secure the social infrastructure services against future flooding. The Project will have four project outputs:

2. **Output 1: National and provincial roads rehabilitated.** This project output will include reconstruction of flood-damaged national and provincial roads in five provinces. In Kampong Cham, one bridge along provincial road 270, which was severely weakened by the floods, will be replaced and 16.19 km of national road 70 will be reconstructed. In Banteay Meanchey, 25.0 km of provincial road 156D and 24.8 km of provincial road 2563 will be repaired and upgraded, and two bridges replaced. In Kampong Thom, 8.15 km of provincial road 264E and 7.50 km of provincial road 264D will be reconstructed. In Siem Reap, 11.3 km of provincial road 265F and 6.0 km of national road 63 will be reconstructed. In Battambang, 19.7 km of provincial road 1570 will be reconstructed. Stage 1 works have already been completed under government funding to restore minimum function of national and provincial roads.

3. **Output 2: Rural roads rehabilitated.** There has been extensive damage to many rural roads as a result of the floods such that lifelines, particularly in project areas, were cut off. The highest priority stage 2 works comprise 115 km of rural roads, to benefit 125,414 people in the selected provinces, by rehabilitation of damaged surface and structures. Stage 3 works comprise 142 km of rural roads, to benefit 158,993 people, through improvements for reliable and more efficient access between rural communities and markets. Improved traffic flow and efficient communications will lead to reduced fuel consumption. These roads were selected from the five priority provinces of Banteay Meanchey, Battambang, Kampong Cham, Kampong Thom, and Siem Reap. The stage 3 roads involve upgrading of a subset of the stage 2 roads, and are selected based on priority requirements for improvement and long-term climate resilience.

4. **Output 3: Irrigation rehabilitated and improved flood improvement.** At least nine flood-damaged irrigation schemes covering about 37,500 hectares will be rehabilitated and improved in five provinces—Banteay Meanchey, Battambang, Kampong Thom, Oddar Meanchey, and Siem Reap.¹ Stage 2 works will involve urgent rehabilitation to restore service functionality for implementation during the 2014 dry season. Stage 3 works will be upgraded with infrastructure improvements, to be implemented during the 2015 and 2016 dry seasons. Civil works and development of hydromet capacity will increase future flood resilience and

¹ Other provinces may also be considered depending on the detailed assessments during implementation, subject to agreement between the Ministry of Economy and Finance and ADB.

contribute to mitigation strategies to lower risk arising from climate change.² The pilot development of a hydromet system in three river catchments will form the basis for improved flash flood forecasting capacity in western catchments.³ When complete, it will provide real-time data to support the implementation of a strategic flood management plan and mitigate recurrent flood risks emanating from large flows in those catchments that impact water storages and infrastructure. The hydromet equipment will be complementary to the strategic water management plan, being developed under ADB's program.⁴

5. **Output 4: Project management and facilitation.** This output will support the Ministry of Finance, as executing agency, in overseeing and managing the project. It will be supported by consultants to ensure that fiduciary and safeguards procedures are followed and that implementation schedules are kept on track. Consulting services will be provided to assist the executing agency and implementing agencies with project management support as well as assistance with the coordination and development of a cross-sector flood management strategy for the affected areas.

6. This environmental assessment and review framework (EARF) will guide the preparation of environmental assessments and environmental management plans (EMPs) developed for roads (outputs 1 and 2) and irrigation (output 3) infrastructure subprojects during project implementation. Output 4 will not have environmental impacts.

7. There is a need for expeditious processing and rapid disbursement of funds to ensure that the Stage 2 works are completed before the 2014 wet season, and a framework approach will be used. This EARF has been endorsed by the government, will be disclosed in ADB's website, and will be translated and disclosed in the websites of the executing agency and implementing agencies.

II. ASSESSMENT OF LEGAL FRAMEWORK AND INSTITUTIONAL CAPACITY

A. Applicable National and Local Laws, Regulations, and Standards

1. Law on Environmental Protection and Natural Resource Management 1996 (No: NS/RKM/1296/36)

8. The law requires the government to prepare national and regional environmental plans and sub-decrees concerning a wide range of environmental issues including environmental impact assessment (EIA), pollution prevention and control, public participation and access to information. The law explicitly mentioned in 1996 the Ministry of Water Resources and Meteorology (MOWRAM) among other ministries. By the end of the 90s, other ministries including the Ministries of Public Works and Transport (MPWT) and Ministry Rural Development (MRD) were added.

² Installation of equipment to measure climate, rainfall, and stream flows, with data logging and telemetry for real-time data receipt at the Ministry of Water Resources and Meteorology.

³ The project will promote use of the standards in the Asian Water Information System and Water ML2.0, supported by ADB and the Asian Pacific Water Forum, as the basis for information exchange and hazard warning.

⁴ ADB. 2010. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the Kingdom of Cambodia for the Water Resource Management Sector Development Program*. Manila.

2. Sub-decree on EIA Processes 1999 (No: 72 ANRK.BK)

9. The sub-decree requires the submission of an initial EIA (IEIA) or EIA for selected projects listed in the sub-decree annex. The identification of projects that require an environmental assessment is through a combination of activity types and threshold criteria. The IEIA or EIA would be submitted by project owners (whether public or private) to the Ministry of Environment (MOE) for review. Provincial Departments of Environment are responsible for implementing environmental protection laws in the provinces including: monitoring, enforcement, and review/approval of IEIAs for smaller-scale projects.

a. Transport Infrastructure Projects

10. For transport infrastructure projects, environmental assessment (IEIA or EIA) is only required for the construction of bridges with a capacity equal to or in excess of 30 tons; or national roads involving the construction or rehabilitation in excess of 100 km in length.

b. Irrigation Infrastructure Projects

11. For irrigation infrastructure projects, none are likely to require an IEIA.

3. Protected Area Law 2008 (No. NS/RKM/0208/007)

12. The law defines protected areas as (i) national parks, (ii) wildlife sanctuaries, (iii) protected landscapes, (iv) multiple use areas, (v) Ramsar sites, (vi) biosphere reserves, (vii) natural heritage sites, and (viii) marine parks. Projects in protected areas require an EIA.

B. ADB Environmental Safeguards

13. ADB environmental safeguards' objectives are: (i) to ensure the environmental soundness and sustainability of projects and (ii) to support the integration of environmental considerations into the project decision-making process. ADB environmental safeguards are triggered if a project is likely to have potential environmental risks and impacts. Policy Principles are in Appendix 1.

C. Institutional Capacity

14. None of the proposed subprojects require an initial environmental impact assessment or an environmental impact assessment based on relevant national and local laws, regulations, and standards. The project has been categorized as B for environment under the ADB's Safeguards Policy Statement 2009 (SPS). Individual subprojects will be screened and classified, and based on the classification—where required, environmental assessments will be undertaken and EMPs developed.

15. The executing agency: Ministry of Economy and Finance (MEF) has formed a project coordination and monitoring unit (PCMU) for project oversight and coordination. The three implementing agencies: MPWT, MRD, and MOWRAM have formed project implementation units (PIUs). The PIUs have identified a focal person for environmental safeguards. The focal person will be assisted in the conduct of the environmental assessment and the development and implementation of environmental management plans by project consultants and local counterparts. All implementing agencies are currently implementing ADB projects under this institutional arrangement (further defined in Section F). In all cases, existing consulting contracts

will be varied to enable consultants to work on Flood Damage Emergency Reconstruction Project. The EA and IAs have capacity to implement ADB requirements, and this will be further strengthened through consultant support and additional capacity building. Additional capacity building at the local authority level will be provided through environment specialists from the project management consultants and the detailed design and implementation support consultants.

III. ANTICIPATED ENVIRONMENTAL IMPACTS

A. Transport Infrastructure Subprojects

1. Pre-construction Phase

16. **Unexploded Ordnance.** A land mine or unexploded ordnance (UXO) risk is widespread in Cambodia. Subprojects will rehabilitate existing roads without widening. Nevertheless, risks remains since there may be deep seated mines that could be exploded by heavy construction equipment and shallow ordnance may be uncovered during works.

17. **Encroachment on Historical/Cultural Areas.** Subprojects will be confined within existing road widths and no impacts on historical/cultural areas are anticipated.

18. **Disruption to Community Utilities.** Although subprojects do not intend to widen roads, some site works may require relocation of utilities.

2. Construction Phase

19. **Encroachment/Damage to Culturally Significant Areas.** Subprojects will be confined within existing road widths and no impacts on historical/cultural areas are not anticipated. Chance-find principles will be applied.

20. **Air Quality Impacts.** During construction, possible sources of air pollution are dust due to earthworks and stockpiling, extraction of fill materials and transport of construction materials such as earth, stone, gravel, sand, and cement; and gaseous emissions from construction equipment, vehicles and asphalt mixing plants. These impacts are temporary and localized.

21. **Noise and Vibration Impacts.** Elevated noise and vibration levels are likely to be experienced during construction due to site works and operation of various equipment and vehicles.

22. **Establishment and Operation of Construction and Workers Camps.** There will be a need to establish workers camps during construction. The operation of these facilities will generate wastes and if improperly handled, these could cause health problems and pollution.

23. **Quarry and Borrow Sites.** Quarry and borrow sites can have impacts on water quality, dust emission during transport, erosion and siltation of nearby water courses and damage to productive land and ecologically sensitive areas if not managed.

24. **Use of Hazardous Substances.** There can be pollution and safety risks due to use of hazardous materials and improper disposal of hazardous wastes. This includes fuel and containers, oil, lubricants, batteries, bitumen, spill wastes, and other hazardous substances

25. **Excavation Spoil.** Improper spoil disposal could cause deterioration of water quality and flow obstruction of water courses if not managed.
26. **Bridge Works.** Bridge rehabilitation can affect water quality and river/stream flow if not managed.
27. **Damage to Community Facilities.** Transport of materials and spoils, operation of construction equipment and various construction activities may damage community utilities if not managed.
28. **Water Quality and Drainage.** Bridge works, stockpiling of construction materials and spoils, use of hazardous materials and earthworks if not properly managed are likely to cause deterioration of surface water quality, flooding and flow obstruction of watercourses.
29. **Traffic Disruption and Access Obstruction.** Road construction works are expected to cause traffic disruption and congestion and obstruction of access to roadside properties and establishments. Lack of proper traffic warning signs and other safety measures (e.g., sufficient lighting at night at construction sites, etc.) could cause accidents.
30. **Soil Erosion.** Unmanaged soil erosion could eventually cause damage to road embankments and deterioration of water quality of nearby river and streams.
31. **Flora and Fauna.** As subprojects will not involve road widening, vegetation clearing is not expected. However, operation of construction equipment and vehicles as well as improper disposal of spoils may cause damage to existing vegetation. Hunting of wildlife and cutting of trees for fuel will be strictly prohibited at the subproject construction sites.
32. **Health and Safety.** The main risks during the construction stage may arise from: (i) inadequate sanitation facilities in work camps; (ii) failure to implement measures to avoid accidents and injuries involving workers and the public; (iii) introduction of sexually transmitted or other diseases by non-local workers, and; (iv) outbreaks of diseases such as malaria, diarrhea, etc. in the labor force.
33. **Social Conflicts.** While not anticipated, the presence of workers could cause conflicts with local communities if not managed.

3. Operation Phase

34. **Air Quality and Noise.** Dust from damaged roads will be reduced and have positive impacts on the quality of life of roadside residents through reduction in dust and to a lesser extent noise.
35. **Road Safety.** Increased traffic speeds resulting in rehabilitating damaged road surfaces, are not expected to result in safety risks higher than pre-flood levels.

B. Irrigation Infrastructure Subprojects

1. Pre-construction Phase

36. **UXO.** Subprojects will take place in areas that are already well trafficked. Thus, it is not likely to have a significant UXO risk.

37. **Protected Areas.** Subprojects are not be in protected areas. Ensuring the functioning of reservoirs will provide the additional moisture to immediate watersheds throughout the year and can improve the conditions of terrestrial habitats for the local flora and fauna.

38. **Downstream Impacts.** While increased irrigation could cause a decrease in the available water for downstream farmers, this will not be worse than the pre-flood situation.

39. **Fish Migration.** While rehabilitation of irrigation infrastructure can change post-flood fish movement, the subprojects will not affect pre-flood fish migration.

2. Construction Phase

40. **Construction Impacts.** Some short-term adverse environmental impacts could occur during the construction phase in case of improper construction management. These impacts would include the mobilization of heavy equipment, location of worker's camps, and waste disposal. None of these impacts are expected to be significant.

41. Some heavy equipment (heavy trucks, bulldozers, backhoes, etc.) will be brought to the construction areas for excavation and construction works. They will only be transported in and out during the construction period and in relatively small numbers. Since subproject areas are not heavily populated, no serious disturbance is envisaged. Some workers will be recruited for construction activities and workers' camp will be constructed. These will include non-skilled workers, operators and drivers as well as surveyors and construction supervisors. Since the works will be relatively small scale and expected to be completed within one year, large numbers of workers are not expected.

3. Operation Phase

42. **Water Pollution.** Subprojects will rehabilitate damaged irrigation infrastructure and is not anticipated to increase use of agricultural chemicals beyond pre-flood levels.

43. **Inadequate Operation and Maintenance.** Poor and inadequate operation and maintenance (O&M) of the rehabilitated irrigation systems could cause unintended adverse environmental impacts. Pre-flood O&M measures should be ensured.

IV. ENVIRONMENTAL ASSESSMENT FOR SUBPROJECTS AND/OR COMPONENTS

A. Screening

44. During project preparation, the Project was classified by ADB as Category B with impacts that are expected to be site-specific, few if any of them are irreversible and in most cases mitigation measures can be designed readily. The general subproject selection criteria has two criterion for environment:

- (i) the subproject will conform with ADB's SPS (2009) with respect to social and environment considerations. Subproject with significant (category A) environmental and resettlement impact, or with impacts on indigenous peoples (category A and B), will be excluded; and

- (ii) The proposed subproject will not be undertaken in critical habitats and protected areas including those either legally protected or officially proposed for protection

45. The subproject selection criteria excludes Category A subprojects or subprojects likely to have significant impacts that are irreversible, diverse, or unprecedented. Subprojects with activities described in ADB's Prohibited Investment Activities List (Appendix 2) will also be excluded from the Project.

46. Subprojects selected will not have significant environmental impacts. Environmental guidelines for subproject selection in Table 1 provide further guidance to avoid or minimize adverse impacts during the identification and finalization of subprojects.

Table 1: Environmental Guidelines

Component	Environmental Guidelines for Subproject Selection
Overall (Applicable to all Subprojects)	Comply with all applicable national and local laws, regulations, and standards.
	Comply with ADB's SPS.
	Avoid land acquisition and involuntary resettlement and have no impacts on indigenous peoples.
	Avoid protected areas and areas of historical/cultural value.
Transport Infrastructure	Do not build new roads and avoid widening existing roads.
	Avoid cutting trees on the roadside and if any trees have to be removed, plant two new trees for every tree lost.
	Consult the relevant archaeological agency regarding archaeological potential subproject areas to ensure that these are located in areas where there is a low risk of chance finds.
Irrigation Infrastructure	Do not build new irrigation infrastructure.
	Do not undertake activities that will alter pre-flood hydrology.

B. Classification

47. Following screening through the subproject selection criteria and environmental guidelines for subproject selection, the implementing agency will classify subprojects at the earliest stage of preparation when sufficient information is available for this purpose. Classification will (i) reflect the significance of potential impacts or risks that a subproject might present; (ii) identify the level of assessment and institutional resources required for the safeguard measures; and (iii) determine disclosure requirements.

48. The Project will adopt ADB's classification system to reflect the significance of a subproject's potential environmental impacts. A subproject's category is determined by the category of its most environmentally sensitive component, including direct, indirect, cumulative, and induced impacts in the subproject's area of influence. Each proposed subproject will be scrutinized as to its type, location, scale, and sensitivity and the magnitude of its potential environmental impacts. Projects are assigned to one of the following three categories:

- i. Category A. A proposed subproject is classified as category A if it is likely to have significant adverse environmental impacts that are irreversible, diverse, or unprecedented. These impacts may affect an area larger than the sites or facilities subject to physical works.

- ii. Category B. A proposed subproject is classified as category B if its potential adverse environmental impacts are less adverse than those of category A projects. These impacts are site-specific, few if any of them are irreversible, and in most cases mitigation measures can be designed more readily than for category A projects.
- iii. Category C. A proposed subproject is classified as category C if it is likely to have minimal or no adverse environmental impacts.

49. Classification will be aided through the form and checklists in Appendix 3. The IA will submit the classification of each subproject to ADB Cambodia Resident Mission (CARM) for review and approval. Category A subprojects will be excluded from the Project. To comply with ADB's SPS—Category B subprojects require the preparation of an initial environmental examination (IEE), while Category C subprojects will require a desk review of environmental implications.

C. Preparation of Environmental Assessments and Environmental Management Plans (EMP)

50. Environmental assessment documents prepared for subprojects should meet both ADB and Government requirements in order to streamline environmental procedures required by both ADB and Government.

51. Adherence to the subproject selection criteria and environmental guidelines for subproject selection ensures that no subproject will have potential significant adverse environmental impacts. Subprojects with minimal or no adverse environmental impacts (Category C) will not require an environmental assessment or the preparation of an EMP. Subprojects with adverse environmental impacts which are not considered significant (Category B) require an IEE and an EMP. Appendix 4 provides an outline of an IEE which contains the EMP.

52. In preparing the IEE secondary data will be collected for subproject-influenced sites. An assessment of subproject impacts and risks on biodiversity and natural resources will also be undertaken. Issues regarding natural and critical habitats will be covered in the IEE report. In case of subprojects located within buffer zone of protected areas, a review of management plans and consultation with concerned management staff of the protected area, local communities, and key stakeholders will be undertaken and reflected in the IEE report. Pollution prevention for conservation of resources particularly technology for management of process wastes will be addressed in the IEE report. Occupational health safety and community health safety will be properly addressed in the EMP section of the IEE report. In case subprojects are likely to have adverse impacts on physical cultural resources, appropriate mitigation measures will to be planned and reflected in the IEE. The IEE will also reflect meaningful consultation and disclosure process with a provision of grievance redress mechanism.

53. An EMP will be developed as part of the IEE. EMPs describe the environmental management measures that will be carried out to mitigate negative impacts or enhance the environment during implementation of a subproject, and the environmental monitoring to be conducted to ensure that mitigation is provided and is effective in reducing impacts, or to determine the long-term impacts of a subproject. EMPs will outline specific mitigation measures, environmental monitoring requirements, and related institutional arrangements, including budget requirements for implementation. Where impacts and risks cannot be avoided or prevented, mitigation measures and actions will be identified so that the subproject is designed, constructed, and operated in compliance with applicable laws and regulations and meets the

requirements specified in this document. The level of detail and complexity of the environmental planning documents and the priority of the identified measures and actions will be commensurate with the subproject's impacts and risks. Key considerations include mitigation of potential adverse impacts to the level of "no significant harm to third parties," the polluter pays principle, the precautionary approach, and adaptive management.

54. All IEEs and EMPs, will be conducted prior to the award of construction contracts. The bid documents will include the requirement to incorporate necessary resources to implement the EMP. The EMP will form part of the contract document, and if required, will need to be further updated during the construction phase of a subproject.

D. Review of Environmental Assessment Reports and EMPs

55. IEEs and EMPs reports will be reviewed initially by the Project Implementation Unit (PIU) and if satisfactory, forwarded to the Project Coordination Management Unit (PCMU) for review and approval. The executing agency will then forward the IEEs and EMPs to ADB and if required the relevant government authority.

V. CONSULTATION, INFORMATION DISCLOSURE, AND GRIEVANCE REDRESS MECHANISM

A. Consultation and Information Disclosure

56. Meaningful stakeholder consultation and participation is part of the project preparation and implementation strategy. As the Project focuses on rehabilitation—consultation, participation and disclosure can ensure information is provided and feedback is obtained and considered on the implementation of subprojects. Affected persons in particular will be consulted at various stages of subproject preparation to ensure: (i) incorporation of views/concerns of affected persons, particularly the vulnerable, on environmental impacts and mitigation measures; (ii) identification of any help required by affected persons during rehabilitation; and (iv) avoidance of potential conflicts for smooth project implementation.

57. It will also provide adequate opportunities for consultation/participation of all stakeholders and inclusion of the vulnerable in subproject process. Relevant information on any major changes to the Project or subproject scope will be shared with beneficiaries, affected persons, vulnerable groups, and other stakeholders.

58. At minimum, stakeholders will be consulted regarding the scope of an impact assessment before work is commenced and they will be informed of the likely impacts of the subproject and proposed mitigation once the draft environmental assessment and EMP documents are prepared. The safeguards documents will record views of stakeholders and indicate how these have been taken into account in subproject development. Consultations will be held with a special focus on vulnerable groups.

59. The key stakeholders to be consulted during subproject preparation, EMP implementation and subproject implementation include:

- i. Beneficiaries;
- ii. Elected representatives, community leaders, religious leaders and representatives of community based organizations;
- iii. Local non-government organizations (NGOs);

- iv. Local government and relevant government agency representatives, including local authorities responsible for land acquisition, protection and conservation of forests and environment, archaeological sites, religious sites, and other relevant government departments;
- v. Residents; and shopkeepers, business persons, and farmers who live and work alongside transport and irrigation facilities which will be rehabilitated;
- vi. Executing agency, implementing agency, PCMU, and PIU staff and consultants; and
- vii. ADB and Government.

60. Information is disclosed through public consultation and making available relevant documents in public locations. The following documents will be submitted to ADB for disclosure on its website:

- i. Subproject IEEs (including EMP)
- ii. Updated IEEs (including EMP) and corrective action plan prepared during project implementation, if any
- iii. Environmental monitoring reports

61. The executing agency will send a written endorsement to ADB for disclosing these documents on ADB website. The implementing agencies will also provide relevant safeguards information in a timely manner, in an accessible place and in a form and language(s) understandable to affected people and other stakeholders. For illiterate people, other suitable communication methods will be used. Disclosure will follow ADB's Public Communication Policy, 2011.⁵

B. Grievance Redress Mechanism

62. The objective the grievance redress mechanism is to resolve complaints as quickly as possible and at the local level through a process of conciliation; and, if that is not possible, to provide clear and transparent procedures for appeal. A well-defined grievance redress and resolution mechanism will be established to resolve grievances and complaints in a timely and satisfactory manner. All affected persons will be made fully aware of their rights, and the detailed grievance redress procedures will be publicized through an effective public information campaign. The grievance redress process includes three stages:

63. First stage: Complaints and grievances will be provided verbally or in writing to the village chief, commune chief or field PIU staff. The receiving agent will provide immediate written confirmation of receiving the complaint. If after 15 days the complainant does not hear from the village and commune chiefs or field PIU staff, or if he/she is not satisfied with the decision taken in the first stage, the complaint may be brought to the District Office.

64. Second stage: The District Office has 15 days within which to resolve the complaint to the satisfaction of all concerned. If the complaint cannot be solved at this stage, the District Office will bring the case to the Provincial Grievance Redress Committee.

65. Third stage: The PGRC meets with the aggrieved party and tries to resolve the situation. Within 30 days of the submission of the grievance, the Committee will make a written decision and submit copies to the executing agency and implementing agencies.

⁵ <http://beta.adb.org/documents/pcp-2011?ref=site/disclosure/publications>

66. While the GRM should not impede access to judicial recourse at an stage, “If the aggrieved affected household does not hear from the District Office or is not satisfied, he/she can bring the case to Provincial Court. The Court will make a written decision and submit copies to the executing agency and implementation agencies. If any party is still unsatisfied with the Provincial Court judgment, he/she can bring the case to a higher-level court”.

67. Safeguard monitoring reports will include the following aspects pertaining to progress on grievances: (i) number of cases registered with the Grievance Redress Committee (GRC), level of jurisdiction (first, second and third tiers), number of hearings held, decisions made, and the status of pending cases; and (ii) lists of cases in process and already decided upon may be prepared with details such as Name, ID with unique serial number, date of notice, date of application, date of hearing, decisions, remarks, actions taken to resolve issues, and status of grievance (i.e. open, closed, pending).

68. All costs involved in resolving the complaints (meetings, consultations, communication and reporting / information dissemination) will be borne by the PCMU.

69. ADB’s Accountability Mechanism⁶ will also be explained to affected households.

VI. INSTITUTIONAL ARRANGEMENT AND RESPONSIBILITIES

70. The Ministry of Economy and Finance (MEF) is the executing agency for the Project. A PCMU within MEF will have an Environment Focal Person to coordinate environmental and social safeguards planning and implementation with assistance from project management consultants. The project management consultant will include an Environment Specialist engaged intermittently during project implementation. The PCMU will ensure that the environmental assessment and review framework (EARF) is followed during subproject implementation. Three PIUs have been formed in the implementing agencies: Ministry of Public Works and Transport (MPWT), Ministry of Rural Development (MRD) and Ministry of Water Resources and Management (MOWRAM). Each PIU has Safeguards Focal Persons. The PIUs will be assisted by detailed design and implementation support consultants which will include an Environment Specialist engaged during project implementation. The PIUs will undertake screening and classification of subprojects for submission to the PCMU and ADB. PIUs will prepare safeguards documents for approved subprojects. Safeguards documents will be reviewed and approved by the PCMU and ADB. PIUs will be tasked with the day-to-day implementation and monitoring of safeguards plans. PIUs will also obtain all clearances and fulfill government requirements. The PIUs will also have provincial offices with a Safeguards Coordinator who will be responsible for data required for safeguards plan preparation and monitoring and progress reports, and coordination with relevant departments such as department of environment to consult and/or obtain endorsement if necessary.

71. The costs for ensuring that the EARF is followed during subproject implementation are included in the costs for the project management consultancy package which includes the engagement of an environment specialist. The (i) screening, (ii) classification, (iii) preparation of environmental assessments and environmental management plans, and (iv) monitoring and supervising contractors’ performance on the implementation of environmental management plans, are included in the costs for the detailed design and implementation support consultancy package which includes the engagement of environment specialists (international and national) for each of the implementing agencies. The cost of mitigation measures during the construction

⁶ <http://beta.adb.org/site/accountability-mechanism/main>

stage will be incorporated into the contractors' costs. Other costs including: public consultation, obtaining required government clearances, and other administrative costs are included in the safeguards costs identified as part of project costs funded from government counterpart financing. Costs for implementing each subproject will be identified and detailed in subproject specific environmental management plans.

VII. MONITORING AND REPORTING

72. The PIUs will monitor and measure the progress of EMP implementation. The monitoring activities will be corresponding with the project's risks and impacts and will be identified in the IEEs for subprojects. Appendix 5 provides a content outline for monitoring reports. In addition to recording information of the work, deviation of work components from original scope, the PIUs will undertake site inspections and document review to verify compliance with the EMP and progress toward the final outcome.

73. Supervision consultants will submit monthly monitoring and implementation reports to the PIUs, who will take follow-up actions, if necessary. PIUs will submit the quarterly monitoring and implementation reports to the PCMU. The PCMU will submit semi-annual monitoring reports to ADB. Project budgets will reflect the costs of monitoring and reporting requirements. Monitoring reports will be posted in a location accessible to the public.

74. The PCMU will document monitoring results, identify the necessary corrective actions, and reflect them in a corrective action plan. The PCMU, in each quarter, will study the compliance with the action plan developed in the previous quarter. Compliance with loan covenants will be screened by the executing agency.

75. ADB will review project performance against the executing agency's commitments as agreed in the legal documents. The extent of ADB's monitoring and supervision activities will be commensurate with the Project's risks and impacts. Monitoring and supervising of environmental safeguards will be integrated into the project performance management system. ADB will monitor projects on an ongoing basis until a project completion report is issued. ADB will carry out the following monitoring actions to supervise project implementation:

- i. conduct periodic site visits for projects with adverse environmental impacts;
- ii. review the periodic monitoring reports submitted by the executing agency to ensure that adverse impacts and risks are mitigated as planned and as agreed with ADB;
- iii. work with executing agency to rectify to the extent possible any failures to comply with their safeguard commitments, as covenanted in the legal agreements, and exercise remedies to re-establish compliance as appropriate; and
- iv. prepare a project completion report that assesses whether the objective and desired outcomes of the safeguard plans have been achieved, taking into account the baseline conditions and the results of monitoring.

APPENDIX 1: Environmental Safeguards Policy Principles

1. Use a screening process for each proposed project, as early as possible, to determine the appropriate extent and type of environmental assessment so that appropriate studies are undertaken commensurate with the significance of potential impacts and risks.
2. Conduct an environmental assessment for each proposed project to identify potential direct, indirect, cumulative, and induced impacts and risks to physical, biological, socioeconomic (including impacts on livelihood through environmental media, health and safety, vulnerable groups, and gender issues), and physical cultural resources in the context of the project's area of influence. Assess potential transboundary and global impacts, including climate change. Use strategic environmental assessment where appropriate.
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.
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 environmental management plan (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. Key considerations for EMP preparation include mitigation of potential adverse impacts to the level of no significant harm to third parties, and the polluter pays principle.
5. Carry out meaningful consultation with affected people and facilitate their informed participation. Ensure women's participation in consultation. Involve stakeholders, including affected people and concerned nongovernment organizations, early in the project preparation process and ensure that their views and concerns are made known to and understood by decision makers and taken into account. Continue consultations with stakeholders throughout project implementation as necessary to address issues related to environmental assessment. Establish a grievance redress mechanism to receive and facilitate resolution of the affected people's concerns and grievances regarding the project's environmental performance.
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.
7. Implement the EMP and monitor its effectiveness. Document monitoring results, including the development and implementation of corrective actions, and disclose monitoring reports.
8. Do not implement project activities in areas of critical habitats, unless (i) there are no measurable adverse impacts on the critical habitat that could impair its ability to function, (ii) there is no reduction in the population of any recognized endangered or critically endangered species, and (iii) any lesser impacts are mitigated. 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. Use a precautionary approach to the use, development, and management of renewable natural resources.
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 subject to international bans or phase outs. Purchase, use, and manage pesticides based on integrated pest management approaches and reduce reliance on synthetic chemical pesticides.

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

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.

APPENDIX 2 : ADB Prohibited Investment Activities List

The following do not qualify for Asian Development Bank financing:

- (i) production or activities involving harmful or exploitative forms of forced labor¹ or child labor;²
- (ii) production of or trade in any product or activity deemed illegal under host country laws or regulations or international conventions and agreements or subject to international phaseouts or bans, such as (a) pharmaceuticals,³ pesticides, and herbicides,⁴ (b) ozone-depleting substances,⁵ (c) polychlorinated biphenyls⁶ and other hazardous chemicals,⁷ (d) wildlife or wildlife products regulated under the Convention on International Trade in Endangered Species of Wild Fauna and Flora,⁸ and (e) transboundary trade in waste or waste products;⁹
- (iii) production of or trade in weapons and munitions, including paramilitary materials;
- (iv) production of or trade in alcoholic beverages, excluding beer and wine;¹⁰
- (v) production of or trade in tobacco;¹⁰
- (vi) gambling, casinos, and equivalent enterprises;¹⁰
- (vii) production of or trade in radioactive materials,¹¹ including nuclear reactors and components thereof;
- (viii) production of, trade in, or use of unbonded asbestos fibers;¹²
- (ix) commercial logging operations or the purchase of logging equipment for use in primary tropical moist forests or old-growth forests; and
- (x) marine and coastal fishing practices, such as large-scale pelagic drift net fishing and fine mesh net fishing, harmful to vulnerable and protected species in large numbers and damaging to marine biodiversity and habitats.

¹ Forced labor means all work or services not voluntarily performed, that is, extracted from individuals under threat of force or penalty.

² Child labor means the employment of children whose age is below the host country's statutory minimum age of employment or employment of children in contravention of International Labor Organization Convention No. 138 "Minimum Age Convention" (www.ilo.org).

³ A list of pharmaceutical products subject to phaseouts or bans is available at <http://www.who.int>.

⁴ A list of pesticides and herbicides subject to phaseouts or bans is available at <http://www.pic.int>.

⁵ A list of the chemical compounds that react with and deplete stratospheric ozone resulting in the widely publicized ozone holes is listed in the Montreal Protocol, together with target reduction and phaseout dates. Information is available at <http://www.unep.org/ozone/montreal.shtml>.

⁶ A group of highly toxic chemicals, polychlorinated biphenyls are likely to be found in oil-filled electrical transformers, capacitors, and switchgear dating from 1950 to 1985.

⁷ A list of hazardous chemicals is available at <http://www.pic.int>.

⁸ A list is available at <http://www.cites.org>.

⁹ As defined by the Basel Convention; see <http://www.basel.int>.

¹⁰ This does not apply to project sponsors who are not substantially involved in these activities. Not substantially involved means that the activity concerned is ancillary to a project sponsor's primary operations.

¹¹ This does not apply to the purchase of medical equipment, quality control (measurement) equipment, and any equipment for which ADB considers the radioactive source to be trivial and adequately shielded.

¹² This does not apply to the purchase and use of bonded asbestos cement sheeting where the asbestos content is less than 20%.

APPENDIX 3 : Rapid Environmental Assessment Checklist for Transport Infrastructure

Instructions:

Answer the questions assuming the “without mitigation” case. The purpose is to identify potential impacts. Use the “remarks” section to discuss any anticipated mitigation measures.

Subproject:

IA:

Screening Questions	Yes	No	Remarks
A. PROJECT SITING			
IS THE PROJECT AREA ADJACENT TO OR WITHIN ANY OF THE FOLLOWING ENVIRONMENTALLY SENSITIVE AREAS?			
▪ CULTURAL HERITAGE SITE			
▪ PROTECTED AREA			
▪ WETLAND			
▪ MANGROVE			
▪ ESTUARINE			
▪ BUFFER ZONE OF PROTECTED AREA			
▪ SPECIAL AREA FOR PROTECTING BIODIVERSITY			
B. POTENTIAL ENVIRONMENTAL IMPACTS			
WILL THE PROJECT CAUSE...			
▪ encroachment on historical/cultural areas; disfiguration of landscape by road embankments, cuts, fills, and quarries?			
▪ encroachment on precious ecology (e.g. sensitive or protected areas)?			
▪ alteration of surface water hydrology of waterways crossed by roads, resulting in increased sediment in streams affected by increased soil erosion at construction site?			
▪ deterioration of surface water quality due to silt runoff and sanitary wastes from worker-based camps and chemicals used in construction?			
▪ increased local air pollution due to rock crushing, cutting and filling works, and chemicals from asphalt processing?			

Screening Questions	Yes	No	Remarks
▪ risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during project construction and operation during project construction and operation?			
▪ noise and vibration due to blasting and other civil works?			
▪ dislocation or involuntary resettlement of people?			
▪ dislocation and compulsory resettlement of people living in right-of-way?			
▪ disproportionate impacts on the poor, women and children, Indigenous Peoples or other vulnerable groups?			
▪ other social concerns relating to inconveniences in living conditions in the project areas that may trigger cases of upper respiratory problems and stress?			
▪ hazardous driving conditions where construction interferes with pre-existing roads?			
▪ poor sanitation and solid waste disposal in construction camps and work sites, and possible transmission of communicable diseases (such as STI's and HIV/AIDS) from workers to local populations?			
▪ creation of temporary breeding habitats for diseases such as those transmitted by mosquitoes and rodents?			
▪ accident risks associated with increased vehicular traffic, leading to accidental spills of toxic materials?			
▪ increased noise and air pollution resulting from traffic volume?			
▪ increased risk of water pollution from oil, grease and fuel spills, and other materials from vehicles using the road?			
▪ social conflicts if workers from other regions or countries are hired?			
▪ large population influx during project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)?			
▪ risks to community health and safety due to the transport, storage, and use and/or disposal of materials such as explosives, fuel and other chemicals during construction and operation?			

Screening Questions	Yes	No	Remarks
<ul style="list-style-type: none"> community safety risks due to both accidental and natural causes, especially where the structural elements or components of the project are accessible to members of the affected community or where their failure could result in injury to the community throughout project construction, operation and decommissioning. 			

Climate Change and Disaster Risk Questions The following questions are not for environmental categorization. They are included in this checklist to help identify potential climate and disaster risks.	Yes	No	REMARKS
<ul style="list-style-type: none"> Is the Project area subject to hazards such as earthquakes, floods, landslides, tropical cyclone winds, storm surges, tsunami or volcanic eruptions and climate changes (see Appendix I) 			
<ul style="list-style-type: none"> Could changes in temperature, precipitation, or extreme events patterns over the Project lifespan affect technical or financial sustainability (eg., increased erosion or landslides could increase maintenance costs, permafrost melting or increased soil moisture content could affect sub0-grade). 			
<ul style="list-style-type: none"> Are there any demographic or socio-economic aspects of the Project area that are already vulnerable (eg., high incidence of marginalized populations, rural-urban migrants, illegal settlements, ethnic minorities, women or children)? 			
<ul style="list-style-type: none"> Could the Project potentially increase the climate or disaster vulnerability of the surrounding area (e.g., by encouraging settlement in areas that will be more affected by floods in the future, or encouraging settlement in earthquake zones)? 			

Note: Hazards are potentially damaging physical events.

Rapid Environmental Assessment Checklist for Irrigation Infrastructure

Instructions:

Answer the questions assuming the “without mitigation” case. The purpose is to identify potential impacts. Use the “remarks” section to discuss any anticipated mitigation measures.

Subproject:
IA:

Screening Questions	Yes	No	Remarks
A. PROJECT SITING IS THE PROJECT AREA ADJACENT TO OR WITHIN ANY OF THE FOLLOWING ENVIRONMENTALLY SENSITIVE AREAS?			
▪ PROTECTED AREA			
▪ WETLAND			
▪ MANGROVE			
▪ ESTUARINE			
▪ BUFFER ZONE OF PROTECTED AREA			
▪ SPECIAL AREA FOR PROTECTING BIODIVERSITY			
B. POTENTIAL ENVIRONMENTAL IMPACTS WILL THE PROJECT CAUSE...			
▪ loss of precious ecological values (e.g. result of encroachment into forests/swamplands or historical/cultural buildings/areas, disruption of hydrology of natural waterways, regional flooding, and drainage hazards)?			
▪ conflicts in water supply rights and related social conflicts?			
▪ impediments to movements of people and animals?			
▪ potential ecological problems due to increased soil erosion and siltation, leading to decreased stream capacity?			
▪ Insufficient drainage leading to salinity intrusion?			
▪ over pumping of groundwater, leading to salinization and ground subsidence?			
▪ impairment of downstream water quality and therefore, impairment of downstream beneficial uses of water?			
▪ dislocation or involuntary resettlement of people?			

Screening Questions	Yes	No	Remarks
▪ disproportionate impacts on the poor, women and children, Indigenous Peoples or other vulnerable groups?			
▪ potential social conflicts arising from land tenure and land use issues?			
▪ soil erosion before compaction and lining of canals?			
▪ noise from construction equipment?			
▪ dust during construction?			
▪ waterlogging and soil salinization due to inadequate drainage and farm management?			
▪ leaching of soil nutrients and changes in soil characteristics due to excessive application of irrigation water?			
▪ reduction of downstream water supply during peak seasons?			
▪ soil pollution, polluted farm runoff and groundwater, and public health risks due to excessive application of fertilizers and pesticides?			
▪ soil erosion (furrow, surface)?			
▪ scouring of canals?			
▪ clogging of canals by sediments?			
▪ clogging of canals by weeds?			
▪ seawater intrusion into downstream freshwater systems?			
▪ introduction of increase in incidence of waterborne or water related diseases?			
▪ dangers to a safe and healthy working environment due to physical, chemical and biological hazards during project construction and operation?			
▪ large population influx during project construction and operation that causes increased burden on social infrastructure and services (such as water supply and sanitation systems)?			
▪ social conflicts if workers from other regions or countries are hired?			
▪ risks to community health and safety due to the transport, storage, and use and/or disposal of materials such as explosives, fuel and other chemicals during construction and operation?			

Screening Questions	Yes	No	Remarks
<ul style="list-style-type: none"> community safety risks due to both accidental and natural hazards, especially where the structural elements or components of the project (e.g., irrigation dams) are accessible to members of the affected community or where their failure could result in injury to the community throughout project construction, operation and decommissioning? 			

Climate Change and Disaster Risk Questions The following questions are not for environmental categorization. They are included in this checklist to help identify potential climate and disaster risks.	Yes	No	Remarks
<ul style="list-style-type: none"> Is the Project area subject to hazards such as earthquakes, floods, landslides, tropical cyclone winds, storm surges, tsunamis or volcanic eruptions and climate changes (see Appendix I) 			
<ul style="list-style-type: none"> Could changes in temperature, precipitation, or extreme events patterns over the Project lifespan affect technical or financial sustainability (e.g., increased glacial melt affect delivery volumes of irrigated water; sea level rise increases salinity gradient such that source water cannot be used for some or all of the year). 			
<ul style="list-style-type: none"> Are there any demographic or socio-economic aspects of the Project area that are already vulnerable (e.g., high incidence of marginalized populations, rural-urban migrants, illegal settlements, ethnic minorities, women or children)? 			
<ul style="list-style-type: none"> Could the Project potentially increase the climate or disaster vulnerability of the surrounding area (e.g., by diverting water in rivers that further increases salinity upstream, or encouraging settlement in earthquake zones)? 			

Note: Hazards are potentially damaging physical events.

APPENDIX 4 : Outline of an Environmental Assessment Report

This outline is part of the Safeguard Requirements 1. An environmental assessment report is required for all environment category A and B projects. Its level of detail and comprehensiveness is commensurate with the significance of potential environmental impacts and risks. A typical environment impact assessment (EIA) report contains the following major elements, and an initial environment examination (IEE) may have a narrower scope depending on the nature of the project. The substantive aspects of this outline will guide the preparation of EIA reports, although not necessarily in the order shown.

A. Executive Summary

This section describes concisely the critical facts, significant findings, and recommended actions.

B. Policy, Legal, and Administrative Framework

This section discusses the national and local legal and institutional framework within which the environmental assessment is carried out. It also identifies project-relevant international environmental agreements to which the country is a party.

C. Description of the Project

This section describes the proposed project; its major components; and its geographic, ecological, social, and temporal context, including any associated facility required by and for the project (for example, access roads, power plants, water supply, quarries and borrow pits, and spoil disposal). It normally includes drawings and maps showing the project's layout and components, the project site, and the project's area of influence.

D. Description of the Environment (Baseline Data)

This section describes relevant physical, biological, and socioeconomic conditions within the study area. It also looks at current and proposed development activities within the project's area of influence, including those not directly connected to the project. It indicates the accuracy, reliability, and sources of the data.

E. Anticipated Environmental Impacts and Mitigation Measures

This section predicts and assesses the project's likely positive and negative direct and indirect impacts to physical, biological, socioeconomic (including occupational health and safety, community health and safety, vulnerable groups and gender issues, and impacts on livelihoods through environmental media [Appendix 2, para. 6]), and physical cultural resources in the project's area of influence, in quantitative terms to the extent possible; identifies mitigation measures and any residual negative impacts that cannot be mitigated; explores opportunities for enhancement; identifies and estimates the extent and quality of available data, key data gaps, and uncertainties associated with predictions and specifies topics that do not require further attention; and examines global, transboundary, and cumulative impacts as appropriate.

F. Analysis of Alternatives

This section examines alternatives to the proposed project site, technology, design, and operation—including the no project alternative—in terms of their potential environmental suitability under local conditions; and their institutional, training, and monitoring requirements. It also states the basis for selecting the particular project design proposed and, justifies recommended emission levels and approaches to pollution prevention and abatement.

G. Information Disclosure, Consultation, and Participation

This section:

- (i) describes the process undertaken during project design and preparation for engaging stakeholders, including information disclosure and consultation with affected people and other stakeholders;
- (ii) summarizes comments and concerns received from affected people and other stakeholders and how these comments have been addressed in project design and mitigation measures, with special attention paid to the needs and concerns of vulnerable groups, including women, the poor, and Indigenous Peoples; and
- (iii) describes the planned information disclosure measures (including the type of information to be disseminated and the method of dissemination) and the process for carrying out consultation with affected people and facilitating their participation during project implementation.

H. Grievance Redress Mechanism

This section describes the grievance redress framework (both informal and formal channels), setting out the time frame and mechanisms for resolving complaints about environmental performance.

I. Environmental Management Plan

This section deals with the set of mitigation and management measures to be taken during project implementation to avoid, reduce, mitigate, or compensate for adverse environmental impacts (in that order of priority). It may include multiple management plans and actions. It includes the following key components (with the level of detail commensurate with the project's impacts and risks):

(i) Mitigation:

- (a) identifies and summarizes anticipated significant adverse environmental impacts and risks;
- (b) describes each mitigation measure with technical details, including the type of impact to which it relates and the conditions under which it is required (for instance, continuously or in the event of contingencies), together with designs, equipment descriptions, and operating procedures, as appropriate; and
- (c) provides links to any other mitigation plans (for example, for involuntary resettlement, indigenous peoples, or emergency response) required for the project.

(ii) Monitoring:

- (a) describes monitoring measures with technical details, including parameters to be measured, methods to be used, sampling locations frequency of measurements, detection limits and definition of thresholds that will signal the need for corrective actions; and (b) describes monitoring and reporting procedures to ensure early detection of conditions that necessitate particular mitigation measures and document the progress and results of mitigation.

(iii) Implementation arrangements:

(a) specifies the implementation schedule showing phasing and coordination with overall project implementation;

(b) describes institutional or organizational arrangements, namely, who is responsible for carrying out the mitigation and monitoring measures, which may include one or more of the following additional topics to strengthen environmental management capability: technical assistance programs, training programs, procurement of equipment and supplies related to environmental management and monitoring, and organizational changes; and

(c) estimates capital and recurrent costs and describes sources of funds for implementing the environmental management plan.

(iv) Performance indicators: describes the desired outcomes as measurable events to the extent possible, such as performance indicators, targets, or acceptance criteria that can be tracked over defined time periods.

J. Conclusion and Recommendation

This section provides the conclusions drawn from the assessment and provides recommendations

APPENDIX 5: Environmental and Social Monitoring Report Outline

The level of detail and comprehensiveness of a monitoring report is commensurate with the complexity and significance of social and environmental impacts. A safeguard monitoring report may include the following elements:

- (a) Background/context of the monitoring report (adequate information on the project, including physical progress of project activities, scope of monitoring report, reporting period, and the monitoring requirements including frequency of submission as agreed upon);
- (b) Changes in project scope and adjusted safeguard measures, if applicable;
- (c) Qualitative and quantitative monitoring data;
- (d) Monitoring parameters/indicators and methods based on the monitoring plan/program previously agreed upon with ADB;
- (e) Monitoring results compared against previously established benchmarks and compliance status (e.g., national environmental emission and ambient standards and/or standards set out in the World Bank Group's Environmental, Health and Safety Guidelines guidelines; timeliness and adequacy of environmental mitigation measures; involuntary resettlement compensation rates and timeliness of payments, adequacy and timeliness of involuntary resettlement rehabilitation measures including serviced housing sites, house reconstruction, livelihood support measures, and training; budget for implementing environment management plan (EMP), resettlement plan, or indigenous people plan, timeliness and adequacy of capacity building, etc.);
- (f) Monitoring results compared against the objectives of safeguards or desired outcomes documented (e.g. involuntary resettlement impacts avoided or minimized; livelihood restored or enhanced; indigenous people (IP's) identity, human right, livelihood systems and cultural uniqueness fully respected; indigenous people not suffer adverse impacts, environmental impacts avoided or minimized, etc.);
- (g) If noncompliance or any major gaps identified, include a corrective action plan;
- (h) Records on disclosure of monitoring information to affected communities;
- (i) Identification of key issues, or complaints from affected people, or recommendations for improvement;
- (j) Monitoring adjustment measures recommended based on monitoring experience/trends and stakeholders response;
- (k) Information about actual institutional arrangement for implementing the monitoring program/plan provided or adjusted, as may be required;
- (l) Proposed items of focus for the next report and due date.