

Environmental Assessment and Review Framework

August 2021

Cambodia: Climate Resilient Rice Commercialization Sector Development Program (Additional Financing)

Prepared by the Ministry of Environment for the Asian Development Bank. This is an updated version of the draft originally posted in September 2012 available on <https://www.adb.org/projects/documents/climateresilientrice-commercialization-sector-development-program-rrp>

CURRENCY EQUIVALENTS

(as of 6 August 2021)

Currency unit	–	riel (KHR)
KHR 1.00	=	\$0.00025
\$1.00	=	KHR 4,075

ABBREVIATIONS

ADB	–	Asian Development Bank
EA	–	executing agency
EARF	–	Environmental Assessment and Review Framework
EIA	–	environmental impact assessment
EMP	–	environmental management plan
FWUC	–	farmer water user community
IA	–	implementing agency
IEE	–	initial environmental examination
IEIA	–	initial environmental impact assessment
MAFF	–	Ministry of Agriculture, Forestry and Fishery
MLMUPC	–	Ministry of Land Management, Urban Planning and Construction
MOE	–	Ministry of Environment
NGO	–	non-government organization
PDA	–	provincial department of agriculture
PDOE	–	provincial department of environment
PDWRAM	–	provincial department of water resources and meteorology
PGRC	–	provincial grievance redress committee
PIO	–	Program Implementation Office
PMO	–	Program Management Office
RGC	–	Royal Government of Cambodia
Rice-SDP	–	Climate Resilient Rice Commercialization Sector Development Program
RWG	–	resettlement working group

NOTES

- (i) The fiscal year (FY) of the Government of the Royal Kingdom of Cambodia and its agencies ends on 31 December.
- (ii) In this report, "\$" refers to US dollars.

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I. INTRODUCTION

1. The Climate Resilient Rice Commercialization Sector Development Program (Rice-SDP) will finance policy support, infrastructure, information management and capacity development investments to enhance the production of quality rice, consistent with the Royal Government of Cambodia's (RGC) Strategy on Agriculture and Water, 2010-13 and Policy on the Promotion of Paddy Production and Rice Export (2010). The Rice-SDP has received an additional financing to respond to impacts of COVID-19 pandemic. The additional financing is in line with the RGC's priorities of addressing the socio-economic impacts of COVID-19 and avoiding disruption and uncertainties to the agricultural supply chains that pose serious food security issues to vulnerable groups, including the small and marginal farmers, women and children, elderly and returning migrant workers.

2. This document sets out the responsibilities and procedures for the environmental assessment of Rice-SDP subprojects based on the relevant laws of the RGC and Asian Development Bank (ADB) requirements as stated in the Sub-decree on Environmental Impact Assessment Process of the RGC (1999), PRAKAS on Classification of Environmental Impact Assessment for Development Projects (2020), Law and corresponding Sub-decree No. 37 on Preventive Measures against the Spread of COVID-19 and Other Severe and Dangerous Contagious Diseases (2021) and ADB's Safeguards Policy Statement (2009). They are intended to facilitate effective integration of environmental assessment and environmental management planning into the preparation and implementation of subprojects.

II. OVERVIEW OF TYPE OF PROJECTS TO BE ASSESSED

A. Rice-SDP Outputs

3. The Program will have six outputs, as follows:

- (i) **Output 1: A Conducive Legal and Regulatory Environment Established to Facilitate Rice Commercialization.** This will be achieved through policy development in five key areas including: (i) Promote Local Seed Production and Distribution, (ii) Strengthen Agricultural Land Management, (iii) Strengthen Farmers' Organizations and Promote Contract Farming, (iv) Establish Cambodian Rice Standards and Facilitate Domestic Trading and Exports of Rice, and (v) Improve Access to Finance.
- (ii) **Output 2: Agricultural Land-use Zoning Improved.** This output will support the development of land-use zoning incorporating agro-ecosystem analyses into commune land-use plans. Activities will focus on updating of rice ecosystem and soil classification maps for the identification of suitable rice growing areas for recognized cropping windows¹ taking into consideration soil type, risks associated with climate change and variability, and conservation of environmentally sensitive areas.
- (iii) **Output 3: Climate Resilient Rice Value Chain Infrastructure Developed.** This output is directed at subproject investments in the three target provinces comprising infrastructure development combined with complementary non-structural investments aimed at maximizing the impacts from structural

¹ Four rice ecosystems are recognized in Cambodia comprising the upland fields, rain-fed lowland fields (upper, medium, lower, and early wet-season paddy fields), deep water paddy fields, and dry season paddy fields (irrigated, receding, and pre-rising paddy fields) using both photo-period sensitive and non-photo-period sensitive varieties

investments. Subprojects have been identified by the provinces and screened for conformity with agreed social and environmental safeguards and will be implemented under a sector modality. The most common investments include irrigation rehabilitation, rice drying and storage facilities (under public private partnerships) and commercial seed production.

- (iv) **Output 4: Enhanced Rice Value Chain Support Services to Improve Quality of Cambodian Rice.** The output relates to improved services along the rice value chain and will result in (i) improved availability and quality of commercial rice seed (based on foundation seed grown by Cambodia Agricultural and Research Development Institute), (ii) upgraded technical extension material, (iii) improved financial management amongst mill operations through local advisory services, and (iv) enhanced appreciation of the requirements of the formal financial sector in accessing credit by farmers, traders and millers.
- (v) **Output 5 - Weather-indexed Crop Insurance (WICI) Piloted.** This output comprises: (i) undertaking a detailed feasibility study to determine the appropriateness of a weather-indexed crop insurance scheme; (ii) designing the operational parameters, product penetration plan, and institutional arrangements; and (iii) piloting the scheme in selected areas in three program provinces.
- (vi) **Output 6: Efficient Program Management and Implementation.** This output covers direct support to the executing agencies through implementation consultants.

4. The additional financing activities are included under the output 3, output 4 and output 5 of the original project. There are no changes to the original project's impact and outcome statements and no geographical expansion of the project areas.

B. Infrastructure Subprojects

5. Investments in infrastructure improvement, to contribute to output 3, will consist of irrigation rehabilitation, irrigation system extension and the construction of grain drying and storage facilities. Irrigation subprojects will include the rehabilitation of existing irrigation systems and may comprise the rehabilitation of head-works, lining of primary, secondary and tertiary irrigation canals, and construction of water management structures. Land leveling, using precision instrumentation will take place in association with some subprojects. The process involves minor redistribution of topsoil to create a level surface over an entire field, allowing for even distribution of irrigation water and hence greater water efficiency.

6. The provision of grain drying and storage facilities will include the construction of buildings, access ways to them, service connections and perimeter fences, the provision of purpose-built processing and handling equipment, the provision of moisture control, weighing and packaging equipment, and training in operation of the facilities. Possibly four drying and storage facilities shall be constructed under the Rice-SDP. Each will have a storage capacity in the range of 8-10,000 tons. The facilities will produce dried grain, addressing a current constraint where farmers have limited access to quality drying facilities, forcing them to sell wet paddy within a limited time window.

7. The additional financing envisages construction of small warehouses (13m x 15m) and drying yards (10m x 20m) for agricultural cooperatives (ACs) and provision of agriculture machineries to agricultural stations, ACs and seed centers.

III. SUBPROJECT ELIGIBILITY CRITERIA

8. Eligibility criteria for candidate subprojects relating to environmental protection are as follows:

- (i) Each subproject must qualify for category B or C as defined in ADB's Safeguards Policy Statement (June 2009), where impacts are site-specific, few (if any) are irreversible and for which mitigation measures can be designed more readily than for Category A subprojects (which have significant adverse impacts that are irreversible, diverse, or unprecedented); Criteria (ii) to (vi) below are intended to exclude subprojects that may result in significant irreversible impacts that would qualify them as Category A subprojects. Most remaining potential subprojects are expected to involve the rehabilitation of infrastructure, which will have potential site-specific impacts that can be mitigated, and would therefore be deemed to be category B subprojects. However, some subprojects may entail primarily capacity building, development of certification systems and similar and are likely to be category C subprojects. During the implementation of the Rice-SDP, the project implementation consultants will develop categorization criteria and checklists;
- (ii) Subprojects that adjoin or pass through an existing or proposed protected area will not be eligible;
- (iii) The subproject must not be located within or adjacent to the newly zoned flooded forest protection area around the Tonle Sap (Sub-decree 197, 29 August 2011) and the buffer zone area according to the Royal Decree for Tonle Sap Biosphere Reserve (10 April 2001);
- (iv) The subproject must be located in an area that is an existing agricultural production zone or that is planned to be zoned for agricultural production (according to the agricultural land zone to be demarcated by the Ministry of Agriculture Forestry and Fisheries (MAFF) and the Ministry of Land Management Urban Planning and Construction (MLMUPC)) and that are outside areas for which economic land concessions have been granted;
- (v) Irrigation Infrastructure subprojects must comprise rehabilitation of existing infrastructure, within the existing right of way; and
- (vi) Where rehabilitation of an irrigation scheme is proposed, if a further existing scheme exists within a 10 km radius, a river basin study shall be carried out and schemes that are likely to adversely affect basin hydrology shall be excluded.

9. In the case of irrigation subprojects, a water availability assessment shall be carried out, based on rainfall and/or catchment data, existing uses of the source stream, for domestic or industrial water supply, or for other irrigation schemes, to determine likely downstream impacts or dry season flows. A method for water availability assessment is provided in the feasibility studies for the representative subprojects. Where extraction for the scheme will be such that a minimum dry season flow for the maintenance of riparian ecosystems is not maintained, the scheme will be rejected as this will result in irreversible impacts on downstream ecology and hence make the scheme ineligible for category B defined in ADB's Safeguards Policy Statement (2009). The water availability assessment will take

account of extreme dry season return periods and climate change. The minimum permissible dry season flow will be determined as part of the assessment, and will take into account the length, width of the stream bed downstream of the scheme intake, likely seepage and requirements for fish movements.

10. ADB's Safeguard Policy Statement (2009) includes internationally recognized standards such as the World Bank Group's Environmental, Health and Safety (EHS) Guidelines. The Guidelines shall be used to complement the Government standards. Occupational and community health and safety, as laid out in the EHS Guidelines, shall be a cross-cutting topic for subproject assessment. Additionally, the risks faced by workers and the public due to COVID-19 pandemic shall be included in the health and safety management plan following the Law and corresponding Sub-decree No. 37 on Preventive Measures against the Spread of COVID-19 and Other Severe and Dangerous Contagious Diseases (2021).

IV. ANTICIPATED ENVIRONMENTAL IMPACTS OF SUBPROJECTS

11. The irrigation subprojects are to be sited in the extensive rice growing areas within Battambang, Kampong Thom and Prey Veng provinces. The land is characterized by flat topography, a long history of cultivation, degraded or cleared forests, vulnerability to annual flooding and a complex network of natural waterways and irrigation channels. Processing facilities will be sited on the periphery of district downs that serve the surrounding farmland, in areas well connected by road transport. No subprojects will be situated within or adjoining protected areas or areas of biodiversity conservation significance and the ecology of the area has been influenced by long founded agriculture, and relatively unchecked forest exploitation in recent decades.

12. For irrigation subprojects, construction impacts are likely to include the temporary use of land for storage of materials and access by plant, potential safety hazards to workers, and safety, noise and dust nuisance to the public where canals pass through built-up areas. These impacts are temporary and can be mitigated by the provision of environmental management plans for each subproject, to which contractors are obliged to adhere. Each irrigation subproject is required to have a water resource assessment to confirm there is no detrimental impact on dry season river or stream flows.

13. During the operation of the schemes, the use of water for irrigation will increase, although this will be significantly offset by the inclusion of improved control structures, leveled land and capacity building of farmer water user communities (FWUCs). Capacity building of FWUCs and extension services for input suppliers will also provide opportunity for much needed education of farmers on risks associated with the use of agro-chemicals. Increased use of agricultural chemicals as a result of availability of irrigation water is anticipated. Good agricultural practices will be promoted through extension services, focusing on selection and correct dosing of pesticides, safe handling and storage of pesticides and on appropriate choice of fertilizer and application rate. Use will be made of technology information packages produced by the MAFF, which give guidance on safe and effective use of agro-chemicals.

14. The grain drying and handling facilities will be housed in large industrial scale buildings, which will be new structures and will consist of storage and transfer bays and specially designed high capacity machinery for the processing functions. Potential health and safety hazards to workers include accidental contact with moving parts, noise nuisance and respiratory problems from dusty conditions. These risks are mitigated by the inclusion of safety railings, and by training and instruction to workers. Dust emissions are reduced by means of partition walls which channel dust-laden air into a moistened surface where it is collected as slurry. This can be given to farmers for re-use as a soil conditioner. Noise is

reduced by the inclusion of noise baffles on machinery and ear protection is provided where necessary. Designs will also provide for on-site treatment of sewerage from workers' toilets adequate storm-water drainage. An assessment of the adequacy of any town system to meet water supply needs will be carried out, and if sufficient quantities of potable water are not available from such sources, alternative sources of water for washing purposes and drinking purposes shall be identified, which may include the collection and storage of rain water (as a partial supply), use of groundwater, or of surface water sources. Provision shall be made for treatment for use to render it safe for washing purposes, while potable water shall be obtained from a supply approved by the Ministry of Industry, Mines and Energy.

V. CAMBODIA ENVIRONMENTAL ASSESSMENT AND REVIEW PROCEDURES

15. The primary legislation for environmental assessment in Cambodia is the Law on Environmental Protection and Natural Resource Management (December 1996), further guidance is provided in the Sub-decree on Environmental Impact Assessment No. 72.ANRK.BK of August 1999 and the Prakas on Classification of Environmental Impact Assessment for Development Projects (No 21 of February 2020).

16. Article 6 of the Law on Environmental Protection and Natural Resource Management states that an environmental impact assessment (EIA) shall be done on every project and activity, private or public, and shall be reviewed and evaluated by the Ministry of Environment or its provincial departments before being submitted to RGC for approval. General provisions for each environmental impact assessment (EIA), the institutional responsibilities, requirements for EIA procedures and conditions for approvals are covered in that Sub-decree. A two-stage process is specified for environmental assessment, similar to that required by the ADB, whereby an Initial Environmental Impact Assessment (IEIA) is prepared for most projects. The IEIA may either suffice for environmental clearance, or form the basis for a more substantial EIA. An Annex of the Sub-decree specifies the types of project that require an IEIA and if appropriate, a full EIA. The required scope and format of the IEIA resembles that of the initial environmental examination (IEE) required under ADB requirements (ADB Safeguards Policy Statement, 2009).

17. Under the Sub-decree, the Ministry of Environment (MOE) is responsible for review of IEIAs and EIAs and to collaborate with the line ministries. The MOE has the authority to approve or reject a project. The Council for the Development of Cambodia (CDC) has overall jurisdiction over projects and also has the power to comment and require amendments or additions to IEIAs and EIAs. The MOE has further responsibility in the monitoring of project implementation. The MOE implements these responsibilities through its Department of Environmental Impact Assessment and Monitoring. Besides the MOE, other ministries with responsibility for the project have the right to examine and approve projects, following MOE review. Provincial and Urban authorities with responsibility for the project are required to ensure that Project Owners prepare EIAs and submit them to the Provincial Environment Office.

18. The primary responsibility for undertaking environmental assessment of projects lies with the Project Owner, and the assessment work is carried out by the Project Owner or consultants retained for the purpose.

19. The specified IEIA / EIA process consists of the identification of environmental impacts, review and examination of alternatives to the proposed project and the communication of information to stakeholders. A report format is also specified in Annex 7 of the Sub-decree. In the case of both IEIAs and EIAs, MOE is required to respond, providing findings and recommendations to the Project Owner, within thirty working days of submission.

20. Article 1 of the Sub-decree states that public participation is to be encouraged in the implementation of the IEIA process so that the conceptual inputs and suggestions of the public are to be taken into account for consideration prior to the implementation of any project.

21. The Prakas on Classification of Environmental Impact Assessment for Development Projects (2020) classifies development projects that requires the environmental protection contract or the initial environmental and social impact assessment report or the full environmental and social impact assessment report. The Prakas covers all the proposed projects and existing and on-going activities of the private individuals or private companies, joint-venture companies, public companies or government ministries/agencies, except for special and urgent circumstances where decision is made by the Royal Government.

22. The Law and corresponding Sub-decree No. 37 on Preventive Measures against the Spread of COVID-19 and Other Severe and Dangerous Contagious Diseases (2021) set forth measures to be taken to combat and prevent the spread of COVID-19 and other severe and dangerous contagious diseases for the purpose of protecting people's live, public health, and public order, as well as minimizing the impact of the spread of these contagious diseases on the social and economic sector in the Kingdom of Cambodia.

23. Article 3 of the Law on Preventive Measures against the Spread of COVID-19 and Other Severe and Dangerous Contagious Diseases (2021) specifies imposing necessary health measures to combat and prevent the spread of COVID-19 in the Kingdom of Cambodia such as sanitation, mask wearing, social distancing, sample collection for COVID-19 diagnosis, quarantine, isolation for treatment, COVID-19 Vaccination, health declaration; and other health measures necessary to respond to and prevent the spread of COVID-19. In addition, Article 4 of this Law prescribes imposing temporary measures or prohibitions or restrictions on meeting and gathering of people and travel to combat against and prevention of the spread of COVID-19.

24. Article 4 to 8 of the Sub-decree 37 on Preventive Measures against the Spread of COVID-19 and other Severe and Dangerous Contagious Diseases notified on 12 March 2021 states the Sanitation, Heat measurement, Wearing Mask and Social Distancing to prevent transmission or infection of COVID-19.

VI. SPECIFIC PROCEDURES TO BE USED FOR SUBPROJECTS UNDER THE PROGRAM

25. The following procedures provide for assessment of environmental impacts, reporting and environmental management planning and have been designed to meet both RGC requirements (as specified in the Law on Environmental Protection and Natural Resource Management 1996) and ADB requirements (as specified in the Safeguards Policy Statement, 2009).

A. Responsibilities and Authorities

26. The Executing Agency for the Program is the Ministry of Economy and Finance and the Implementing Agencies for subprojects will be the Provincial Governors' offices in participating provinces. Overall project planning and coordination, financial control and implementation of safeguards will be the responsibility of the implementing agencies, who will also have responsibility for interagency coordination, for overseeing and monitoring safeguards, including supervision of environmental assessment work and Environmental

Management Plan implementation. At provincial level, responsibilities will be allocated to the provincial department of water resources and meteorology (PDWRAM) and the provincial departments of agriculture (PDA) as appropriate. These agencies will engage consulting services as necessary to undertake environmental assessments, including water availability analysis for irrigation subprojects, and receive assistance from the Project Implementation Consultants.

27. The environmental assessment of subprojects will be carried out by staff of the provincial departments with training from the implementation consultants and backup support as and when necessary. The approval of IEE's will be the responsibility of the Ministry of Environment (MOE) or provincial department of environment (PDOE) following disclosure of draft IEEs including Khmer language summaries to Commune Councils.

28. Subproject implementation under Rice-SDP shall include occupational health and safety plan including plan for COVID-19 pandemic to address risks and vulnerabilities of workers and community due to possible hazards during subproject construction and operation. In order to minimize the environmental and social risk and impact of the subproject on workers and management at campsite and construction site, relevant stakeholders involved in subproject implementation shall follow Article 4 of the Sub-decree No. 37 on Preventive Measures against the Spread of COVID-19 and other Severe and Dangerous Contagious Diseases issued on 12 March 2021. The Article 4 states that all enterprises or private institutions or business owners must arrange sanitary disinfectant, temperature measurement for individuals, face masks and observe social distancing to prevent the spread of COVID-19. Everyone must adhere to hygiene, disinfection, wearing mask and observing social distancing in public places or places where people gather to prevent the transmission or infection of COVID-19. All enterprises or private institutions or business owners shall not allow staff/person who do not adhere to hygiene or with a body temperature above 37.5C (thirty-seven and half degree Celsius) or do not wear mask at the working place. Maintaining individual social distance must be at least 1.5 meters (one meter and fifty centimeters) and must be performed as an obligation in crowded workplaces, businesses or public places as determined by the Ministry of Health.

B. Procedures for Environmental Assessment of Subprojects

1. Subproject Screening

29. Irrigation schemes will be subject to an assessment of water availability as described in section III, and only schemes that permit an acceptable minimum maintenance flow downstream of the irrigation off-take will be eligible.

2. Environmental Classification

30. The environmental categorization for each subproject will be determined by the PDOE with assistance from the implementation consultants, who will develop specific criteria and screening checklists to facilitate environmental classification.

3. IEE Preparation

31. IEE preparation for each subproject will be also carried out by the provincial departments of the implementing agencies with the assistance of the implementation consultants. IEEs will include COVID-19 and other severe and dangerous contagious diseases health and safety risk management plan to include but not limited to maintaining social distancing and proper sanitary condition and wearing masks.

4. Review of IEEs

32. IEEs will be subject to review by the MOE or PDOEs, implementing agencies (IAs), executing agency (EAs) and by ADB, for no objection.

5. Environmental Monitoring Requirements

a. Rationale for Monitoring

33. Environmental issues associated with the subprojects that potentially merit monitoring are: (i) compliance with environmental management plans (EMPs) during construction and operation to ensure that the required monitoring takes place, (ii) noise and dust nuisance during construction, (iii) for some irrigation schemes, the quality of water that passes through built up areas as water in these canals is likely to be used as a supplementary source of domestic water, (iv) the presence of residues of agro-chemicals, and (v) working conditions in grain drying and storage facilities.

34. Construction impacts will be limited, partly because most construction sites will be distant from homes, and also because effects will be short lived and, if the EMPs are properly implemented, significantly mitigated. No monitoring other than for compliance with EMPs is recommended.

35. In the case of agro-chemicals, monitoring is made complex by the fact that different fertilizer, pesticide, herbicide and fungicides are used in different locations and there is therefore a large and variable group of chemical compounds, each of which needs a different test to detect or quantify. Also, while some of the products that are used by farmers, use compounds that are classified as persistent, (such as 2,4-Dichlorophenoxyacetic acid ("2 4-D"), or methyl parathion, the active ingredient in the product "Folidol") begin to break down on release. Since the timing between the application of agro-chemicals and testing in any regular testing program will vary considerably, the results will not give meaningful information on any changes in farmer behavior that may result from the subprojects (either increased application as a result of more intensive farming, or reduced application as a result of extension and public education via FWUC capacity building or input suppliers).

36. In grain storage and handling facilities, workers will be subject to noise and dust emissions from the plant they are operating. Appropriate standards for these are provided in the Sub-decree on Air Pollution and Noise Disturbance (2000).

37. It is therefore recommended that monitoring is confined to monitoring for compliance with EMPs, basic water quality monitoring in irrigation systems where these pass through built up areas, and to dust and noise levels in drying and handling facilities.

b. Monitoring for Compliance with EMPs

38. To ensure that potential environmental problems are detected and addressed appropriately, environmental monitoring will take place during construction and operation of each subproject. During construction, the key tasks are monitoring the compliance with environmental mitigation measures in the environmental management plan for each subproject, which shall be done by the construction supervision team. During operation, responsibility for monitoring shall rest with the provincial departments.

c. Water Testing

39. Water is to be tested: (i) for monitoring of quality in schemes where canals pass through or near to built-up areas, (ii) to identify changes of the presence of surplus fertilizer

compounds in tertiary canals, as a means of monitoring improvements in proper use of fertilizers, and (iii) to detect traces of hazardous pesticide, herbicide or fungicide substances, as a means of monitoring improvements in proper use of these chemicals. The following parameters and limits are recommended for this purpose:

Parameters	Maximum Value
pH	5.5 - 9
Faecal Coliforms	<1,000 per 100
ml Biological Oxygen Demand (20°C)	<25 mg/l
Chemical Oxygen Demand	<35 mg/l

40. Samples should be taken twice, at six-monthly intervals during the twelve months prior to construction, during twice a year during construction and at quarterly intervals during operation, and taken to an appropriate laboratory for analysis. Samples shall be taken from a point midstream in one of the canals at each site. A single sample is sufficient. The cost of one set of tests is approximately \$135.

d. Testing for Noise and Dust Levels

41. Ambient air within grain drying and handling plant will be tested to measure total suspended particles. The required standard is less than 0.33 mg/m³ of total suspended particles, given in Annex 1 of the Sub-decree on Air Pollution and Noise Disturbance (2000). Tests will be carried out by an independent laboratory, and undertaken once per year during operation, at each plant. The cost of a set of tests is approximately \$220.

42. Noise levels will be determined with an integrating noise meter. The maximum noise level in a workshop, specified in Annex 7 of the Sub-decree on Air Pollution and Noise Disturbance (2000) is 85 dB(A). This should be taken as the continuous noise equivalent level of 85 dB(A) Leq, and determined by using an integrating noise meter. Readings and analysis will be taken by an independent laboratory, and will be undertaken once per year during operation, at each plant. The cost of noise level monitoring over a working day is \$340 approximately.

43. The findings from the monitoring will be summarized and included in quarterly progress reports. These will be submitted to the Program Management Office (PMO) for consolidation and reporting to the ADB and MOE. Any issues that arise that call for further monitoring activities or other investigation will be raised by the PMO in the quarterly progress reports and discussed at review missions.

VII. PUBLIC CONSULTATION AND INFORMATION DISCLOSURE PLAN

A. Public Consultation for IEE Preparation and Disclosure

44. Public consultation needs to be carried out for IEE preparation, and again once the IEEs are prepared, to invite comment from the public in accordance with the EIA decree.

45. During IEE preparation, the EIA decree requires village dissemination meetings to inform the villagers, in various forms, the proposed project and the possible environmental and social impacts as well as to collect opinions from people who may be affected by the project. Assistance is to be provided by the local administrations. At this stage, the following agenda should be used to ensure that there is adequate exchange of information and opinion:

- (i) A summary of the proposed works under the subproject;
- (ii) A summary of subproject objectives and likely positive and negative environmental impacts, covering the construction phase and operational impacts;
- (iii) Invitation for feedback in respect of any areas of concern that the public may have, and suggested means of implementation;
- (iv) Acceptability of the proposed works to the public;
- (v) Request for information on the known occurrence of unexploded ordinance in the area where the scheme components will be built; and
- (vi) Information on the requirement of a COVID-19 and other severe and dangerous contagious diseases health and safety risk management plan in view of the Law and corresponding Sub-decree No. 37 on Preventive Measures against the Spread of COVID-19 and Other Severe and Dangerous Contagious Diseases (2021) shall be disseminated.

46. For the consultations, the dates, attendees, topics covered and conclusions should be recorded and included with the IEE report. These are to take the form of meetings, at which the findings of the IEE will be presented in addition to key background information. Comments are recorded and the IEE updated accordingly.

47. Once the IEE is completed, a summary should be prepared in Khmer. The IEE and Khmer language summary should be distributed to the Commune Councils for their information and for display to the public for a period of thirty days.

B. Public Consultation During Construction

48. During construction and operation, the project developer is obliged under the EIA decree to inform project affected people and other stakeholders of project activities which are likely to create environmental and social impacts, and to allow them to access general information about the subproject. In addition, should people affected by the project have any grievances, they have the right of lodging complaints through a grievance redress process established for the subproject.

49. In view of the COVID-19 pandemic, the project developer/contractor shall come up with a COVID-19 and other severe and dangerous contagious diseases health and safety risk management plan to ensure social distancing, maintenance of proper sanitary conditions through regular breaks to wash hands, regulating the use of toilet, provision of additional hand wash facilities (e.g. pop ups), provision of mask, provision of a welfare attendant for smooth operation, etc. In particular, the project developer/contractor shall ensure that facilities such as hand sanitizer - minimum 60% alcohol based, adequate supplies of soap and fresh water, hand towels, suitable and sufficient rubbish bin for disposal of wastes, and facility for proper and regular removal of the wastes are carried out or provided. Orientation to the workers on dangers of communicable diseases and COVID -19 pandemic shall be provided. The project developer/contractor shall post the MoH's guidance on washing hands in Khmer Version at campsite.

C. Grievance Redress Mechanism

50. People who may be affected by the subprojects or concerned about their environmental impacts are entitled to lodge complaints regarding any aspect of the preparation and implementation of the subproject.

51. The objective of 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.

52. 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 applies to potential resettlement and land acquisition issues as well as to environmental issues and includes four steps of which three are followed before complaints may be elevated to a court of law as a last resort, as follows:

- (i) 1st step: Complaints and grievances will be provided verbally or in writing to a contractor, the village chief, commune chief, or the commune land acquisition committee (CLAC). 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 if he/she is not satisfied with the decision taken in the first stage, the complaint may be brought to the District Office.
- (ii) 2nd step: The District Office in cooperation with the resettlement working group (RWG) 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 (PGRC) and has to inform the complainant.
- (iii) 3rd step: 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 EA (including Inter-Ministerial Resettlement Committee) and IAs.
- (iv) 4th step: If the aggrieved person does not hear from the Provincial Grievance Redress Committee or is not satisfied, s/he can bring the case to Provincial Court. The Court will make a written decision and submit copies to the EA and IAs. If any party is still unsatisfied with the Provincial Court judgment, he/she can bring the case to a higher-level court.

53. It is recognized that, in many cases, people with a grievance may not have the writing skills or be able to express their grievances verbally, however, complainants are encouraged to seek assistance from the independent monitoring organization (IMO), the nominated local NGOs or other family members, village heads or community chiefs to have their grievances recorded in writing and to have access to project documentation, and to any survey or valuation of assets, to ensure that where disputes do occur all the details have been recorded accurately enabling all parties to be treated fairly.

54. The PMO/provincial implementation office (PIO) will shoulder all administrative costs incurred in the resolution of grievances and complaints within the project-level grievance redress mechanism. If the complainant seeks grievance redress through country-level judicial and administrative mechanisms, the requirements and procedures applicable to the relevant jurisdiction shall apply.

55. All complaints and resolutions will be properly documented by the concerned resettlement committee and be available for the public and review for monitoring purposes.

56. Safeguard monitoring reports will include the following aspects pertaining to progress on grievances: (a) number of cases registered with the PGRC, level of jurisdiction (first, second, and third tiers), number of hearings held, decisions made, and the status of pending

cases; and (b) 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).

VIII. STAFFING REQUIREMENTS AND BUDGET

57. An international environment specialist will be required to provide initial training in IEE preparation and intermittent support for 6 years of Rice-SDP, supported by a domestic environment specialist who will provide direct support to Provincial Implementation Offices (PIOs) in IEE preparation. These specialists will be required for 11 months and 27 months respectively.

A. Budget

Table A2-11.1: Budget to Implement Environmental Management Framework

Item	Unit Cost	No of Units	Cost
Consultant Inputs			
International Environmental Specialist	24000	11	264,00
National Environmental Specialist	3000	27	81,000
International Travel and Per Diem			
International air travel	3000	4	12,000
Per Diem - International	3000	11	33,000
Per Diem National	600	27	16,200
Total			406,20

58. The cost of testing for monitoring purposes prior to construction for each irrigation subproject will be approximately \$270. Costs during construction will be approximately \$135 per subproject, costs of compliance monitoring will be covered by the consulting services budget. During implementation, annual costs for water testing will be \$540 approximately.

IX. TERMS OF REFERENCE FOR THE ENVIRONMENT SPECIALISTS

A. Environment Specialists

59. The specialists (11 pm international and 27 pm national) will have appropriate tertiary qualifications in environmental science or natural resource management from a recognized institution and will have more than 8 years' experience working in the field of environmental management for internationally funded development projects, some of which will have been undertaken in Cambodia or elsewhere in the Mekong sub-region. The national specialist will also have considerable experience in environmental monitoring and will be familiar with the laws of Cambodia associated with the environment as well as having had experience in internationally funded development projects, preferably related to infrastructure development, as an environmentalist. Training skills would also be an advantage to the international and national specialists.

60. Duties of the specialists will include the following:

- (i) Review the environmental recommendations of the PPTA Final Report and the formats for environmental examinations contained therein;
- (ii) Review the long list of subprojects, the screening that has been applied, and confirm and update categorization criteria and develop screening checklists for further subprojects;
- (iii) Brief the staff of the PIOs in participating provinces on environmental procedures and requirements for subproject preparation;
- (iv) Visit each subproject during the subproject preparation to ensure environmental safeguards are being properly conducted through assisting the IEE preparation;
- (v) Assist the PMO with the internal review of the initial environmental examinations and associated environmental management plan prepared for each subproject and assist with updating the draft IEEs in response to comments received; and
- (vi) Assist in the preparation and implementation of training activities with regard to the environmental aspects of the Program.
- (vii) Assist EA/PMO to ensure that the project complies with national regulation and ADB requirements.

**X. APPENDIX 2-11.1: PROPOSED ENVIRONMENTAL ASSESSMENT REPORTING
FORMAT²**

Headings	Components
Introduction	Name of the project, objectives of the project, purpose of the report
Description of the Project	Needs analysis; description of the proposed activity and summary of the benefits expected to arise from it
Description of the environment	Relevant topographical, geological, climate, climate change, land use, flora, fauna, demography and human development context
Environmental Impacts	Annotated list of expected environmental impacts, providing discussion where necessary, and a description of methods used to identify impacts. Description of effects from climate change and variability
Analysis of Alternatives	Summary of alternatives that apply to the project Rationale for choices made Description of the “do nothing” scenario
Legal Requirements	List of relevant local legislation that applies and its significance
Findings of Consultations	Summary of findings of consultations undertaken during design and environmental assessment
Environmental Management Plan	Summary of responsibilities of the project applicant and other key stakeholders List of mitigation measures for each environmental issue, detailing location, duration, responsibility and where applicable, cost Monitoring plan covering parameters to be monitored, agency responsible for monitoring and agency/ies responsible for responding to the findings of monitoring
Conclusion and Recommendation Summary	In English and Khmer

² Required only for category B subprojects

XI. APPENDIX 2-11.2: GUIDELINES FOR THE PREPARATION OF ENVIRONMENTAL MANAGEMENT PLANS

A. Subprojects

61. Environmental Management Plans should be applicable to the scope and nature of the subprojects. Most will involve irrigation scheme rehabilitation and improvement, some will involve the provision of grain drying and handling facilities, other types of rural infrastructure upgrading or improvement may also be included.

B. Responsibilities

62. The implementing agencies are responsible for preparation and implementation of subprojects, with assistance from a team of consultants. Once construction is complete, schemes are handed over to users who are usually FWUCs in the case of irrigation schemes and private sector partners in the case of grain drying and handling facilities. The users then have primary responsibility for operation and maintenance of the schemes.

C. Costs

63. Costs of environmental mitigation during construction are met within the construction contracts. During operation, costs of operation and maintenance are met by the users, while costs of training and technical support are met by the implementing agencies.

D. EMP Format

64. The EMP should list mitigation measures for each stage (preconstruction, construction and operation) and each potential environmental problem and provide information on cost allocation and responsibilities. The following table gives an example for some potential environmental impacts and mitigation measures for each phase, for irrigation subprojects:

Table A2-11.2: Environmental Impacts and Mitigation Measures: Irrigation

Potential Environmental Impact	Mitigation measure(s)	Cost Allocation	Responsibility for Implementation
Preconstruction			
Effects on private property or land	<ul style="list-style-type: none"> Siting of facilities to avoid conflicts; implementation of resettlement and compensation plan for the subproject 	Design cost	PMO
Possible maintenance difficulties	<ul style="list-style-type: none"> System selection and design to maximize durability of the systems and make them as easy to maintain as possible 	Design cost	PMO
Construction Phase			
Safety Hazards to workers, health risk-Covid-19 pandemic, and local people, and effects of temporary worker populations in the area	Notices to the public; careful supervision of excavation operations, ensuring operation of plant by licensed experienced operators only	Construction Cost	Contractor(s)
Operation Phase			

Potential Environmental Impact	Mitigation measure(s)	Cost Allocation	Responsibility for Implementation
Potential failure from incorrect operation and/or inadequate maintenance	<ul style="list-style-type: none"> • Training of FWUCs users in operation and maintenance 	Estimate of training cost to include in subproject budget	Implementing Agencies
	<ul style="list-style-type: none"> • Obtaining formal commitments from FWUCs to undertake maintenance 	Negligible	Implementing Agencies
	<ul style="list-style-type: none"> • Provision of follow-up training and technical support 	Part of normal staff budget	Implementing Agencies
Potential excessive use of agro-chemicals due to intensification	<ul style="list-style-type: none"> • Training of FWUCs users in operation and maintenance 	Estimate of training cost to include in subproject budget	Implementing Agencies

Table A2-11.3: Environmental Impacts and Mitigation Measures: Storage and Handling

Potential Environmental Impact	Mitigation measure(s)	Cost Allocation	Responsibility for Implementation
Preconstruction			
Risks of flooding	<ul style="list-style-type: none"> • Selection of site in a zone that is, to the extent practicable, not liable to flooding 	Negligible	PMO
Risks of contamination of nearby waterways	<ul style="list-style-type: none"> • Inclusion in design of provision for treatment of sewage from workers' toilets and for adequate storm-water drainage 	Design cost	PMO
Health risks to workers from dust pollution	<ul style="list-style-type: none"> • Provision of dust capture screens on processing equipment and ducting to dust collection mechanism. Disposal of collected dust to settlement pond 	Design cost	PMO
Risks of unsanitary working and grain storage conditions during flood events	<ul style="list-style-type: none"> • Elevated settling ponds (above flood level); provision for valves on septic tanks (or other onsite sewerage treatment); Provision of elevated platform for machinery 	Design Cost	PMO
Construction Phase			
Safety Hazards to workers and local people, and effects of temporary worker populations in the area	Notices to the public; careful supervision of excavation operations, ensuring operation of plant by licensed experienced operators only	Construction Cost	Contractor(s)
Occupational Health and Safety	<ul style="list-style-type: none"> • Implementation of the construction health and safety plan in accordance with the World Bank EHS Guidelines (http://www.ifc.org/ehsguidelines) as a minimum standard. • Implementation of COVID-19 and other severe and dangerous contagious diseases health and safety risk management plan 	Construction Cost	Contractor(s)
Operation Phase			
Health risks to workers from hazards noise or deterioration of work environment	<ul style="list-style-type: none"> • Monitoring of standards of upkeep of machinery, buildings and facilities and of training of workers in safe operation of machinery; provision for emergency procedures; provision of protective clothing (including dust masks) where appropriate 	Management cost	Facility operators

APPENDIX 2-11.3: RECOMMENDED FORMAT FOR QUARTERLY ENVIRONMENTAL MONITORING REPORT

IRRIGATION SUBPROJECTS

E. Reporting Particulars

Reporting Period

Name and position of person compiling the report

Date of completion

Circulation list

F. Status of Subprojects

1. Implementation Status

Subproject Name	Value	Identification	Current Status (provide completion dates as applicable)				Completion
			Preparation (including IEE/EMP)	Approval	No Objection	Procurement	

2. EMP Status

Subproject Name	IEE/EMP approved (PDE)	No Objection on IEE/EMP (ADB)	EMP included on contract documentation (yes/no)	Satisfactory compliance to date (yes/no)
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NB For subprojects that have had IEEs and EMPs approved / given no objection since the last quarterly report, attach approval letter and note of no objection to this report.

65. Where the EMP has not been complied with, describe the issue, action taken, if the issue has been resolved, and what further action needs to be taken, and by whom.

G. Significant Events or Developments During the Period

66. Describe:

- A. Significant construction that has taken place for each subproject
- B. Storms or floods that have occurred at subproject sites
- C. Any notable incidences - such as occurrences of illnesses associated with pesticide use

H. Water Test Results

Location	Parameter	Maximum value	Measured value
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I. Community Feedback

1. Disclosure for Subprojects under Preparation

Subproject	Date	Location	Form of announcement ¹	Meeting type ²	Outcomes
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1 By radio, posted notice, or formal agreement with commune council

2 Formal (Commune council), Focus group or ad hoc

2. Consultations with stakeholder communities for subprojects in progress

Subproject	Date	Location	Outcomes	Issues Arising	Action Taken
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3. Complaints Received

Date	Location	Subproject	Action Taken	Action Remaining
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J. Action

67. Describe:

A. Action recommended in the report on the previous period and progress

B. Action to be taken to address issues arising from monitoring activities

K. Commentary

68. Provide any explanatory notes on the findings, and any issues to do with follow up action

GRAIN STORAGE AND HANDLING SUBPROJECTS

A. Reporting Particulars

Reporting Period

Name and position of person
compiling the report

Date of completion

Circulation list

B. Status of Subprojects

1. Implementation Status

Subproject Name	Value	Identification	Current Status (provide completion dates as applicable)				Completion
			Preparation (including IEE/EMP)	Approval	No Objection	Procurement	

2. EMP Status

Subproject Name	IEE/EMP approved (PDE)	No Objection on IEE/EMP (ADB)	EMP included on contract documentation (yes/no)	Satisfactory compliance to date (yes/no)
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NB For subprojects that have had IEEs and EMPs approved / given no objection since the last quarterly report, attach approval letter and note of no objection to this report.

69. Where the EMP has not been complied with, describe the issue, action taken, if the issue has been resolved, and what further action needs to be taken, and by whom.

C. Significant Events or Developments During the Period

70. Describe:

- (i) Significant construction that has taken place for each subproject
- (ii) Storms or floods that have occurred at subproject sites
- (iii) Any notable incidences - such as accidents (major or minor)

D. Air Quality Test Results

Location	Parameter	Maximum value	Measured value
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E. Noise Measurement Results Results

Location	Continuous Noise Equivalent Level (LAeq) over working hours	Maximum value	Measured value
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F. Community Feedback**1. Disclosure for Subprojects under Preparation**

Subproject	Date	Location	Form of announcement ¹	Meeting type ²	Outcomes
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1 By radio, posted notice, or formal agreement with commune council

2 Formal (Commune council), Focus group or ad hoc

2. Consultations with stakeholder communities for subprojects in progress

Subproject	Date	Location	Outcomes	Issues Arising	Action Taken
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3. Complaints Received

Date	Location	Subproject	Action Taken	Action Remaining
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G. Action

71. Describe:
- (i) Action recommended in the report on the previous period and progress
 - (ii) Action to be taken to address issues arising from monitoring activities

H. Commentary

72. Provide any explanatory notes on the findings, and any issues to do with follow up action