# Environmental Assessment and Review Framework

Project Number: 49319-001
November 2015

# VAN: Cyclone Pam Road Reconstruction Project

## CURRENCY EQUIVALENTS

(as of 30 June 2015)

| Currency unit | Vatu (VT) |
|---|---|
| VT1.00 | US$104.35 |
| US$1.00 | VT 0.00940 |

## ABBREVIATIONS

| | |
|---|---|
| ADB | Asian Development Bank |
| CEMP | Construction environmental management plan |
| CPP | Consultation and Participation Plan (for the project) |
| CSS | Country safeguard system |
| DEPC | Department of Environment Protection and Conservation (within MCC) |
| DGMW | Department of Geology, Mines and Water (within Ministry of Land and Natural Resources) |
| DFAT | Department of Foreign Affairs and Trade (Australian Government) |
| DSC | Design and supervision consultant |
| EARF | Environmental Assessment and Review Framework |
| EIA | Environmental impact assessment |
| EPCA | Environment Protection and Conservation Act 2010 (as amended) |
| GDP | Gross domestic product |
| IEE | Initial environmental examination |
| IWG | Infrastructure Working Group |
| MCC | Ministry of Climate Change, Meteorology and Geo-hazards, Environment, Energy, and Disaster Management |
| MIPU | Ministry of Infrastructure and Public Utilities |
| PDNA | Post Disaster Needs Assessment (prepared by government and development partners) |
| PEA | Preliminary environmental assessment |
| PMU | Project Management Unit (within MIPU for the project) |
| PWD | Public Works Department (within MIPU) |
| SPS | Safeguards Policy Statement 2009 (of ADB) |

## CONTENTS

# I. INTRODUCTION

1. **The disaster.** Between March 12 and 14, 2015, Tropical Cyclone Pam struck Vanuatu as an extremely destructive Category 5 cyclone, with estimated wind speeds of 250km/h and wind gusts that peaked at around 320km/h. At approximately 11 p.m. local time, the center of the cyclone passed east of Efate Island, which is home to the capital city of Port Vila, and then continued southward, passing just west of Erromango Island and Tanna Island (Figure 1.1).

2. Severe and widespread damage was worst on the larger islands of Tanna, Erromango, and Efate, while there was less damage on the smaller islands of Aneityum, Aniwa, and Futuna in the southern region. Eleven fatalities were subsequently confirmed in Tafea and Shefa Provinces. An estimated 65,000 people were displaced from their homes. Approximately 17,000 buildings were damaged or destroyed, including houses, schools, clinics, and other medical facilities. The tropical cyclone destroyed crops on a large scale and compromised the livelihoods of at least 80% of Vanuatu's rural population.

**Figure 1.1: Vanuatu islands and towns**

3. **Damage, losses and impacts**. Based on the best available information at the time, the Post Disaster Needs Assessment (PDNA)[1], estimated total economic value of the effects (damage and losses) caused by Tropical Cyclone Pam was estimated to be approximately VT 48.5 billion (US$449.4 million). This is equivalent to 64.1% of the gross domestic product (GDP) in Vanuatu[2], giving an indication of the scale of impact (Table 1.1). The PDNA collected data during the short time frame of the assessment and faced difficulties, as in many instances data were either not available or had not yet been processed. Accordingly, the PDNA is not a full assessment of total damage and loss.

**Table 1.1: Summary of Damage and Losses by Sector**

| Sector | Disaster effects (VT millions) | | | Share of disaster effects (%) | |
|---|---|---|---|---|---|
| | Damage | Losses | Total | Of sector | Of total |
| ***Productive*** | ***8,525*** | ***10,403*** | ***18,928*** | | ***38.98*** |
| Agriculture | 1,421 | 4,641 | 6,062 | 32.03 | 12.49 |
| Commerce & industry | 1,196 | 2,152 | 3,348 | 17.69 | 6.90 |
| Tourism | 5,908 | 3,610 | 9,518 | 50.29 | 19.60 |
| ***Social*** | ***14,429*** | ***629*** | ***15,058*** | | ***31.01*** |
| Housing | 9,542 | 440 | 9,982 | 66.29 | 20.56 |
| Health | 870 | 107 | 977 | 6.49 | 2.01 |
| Education | 3,908 | 79 | 3,987 | 26.48 | 8.21 |
| Culture | 109 | 3 | 112 | 0.74 | 0.23 |
| ***Infrastructure*** | ***6,403*** | ***2,926*** | ***9,329*** | | ***19.21*** |
| Transport | 3,017 | 2,137 | 5,154 | 55.25 | 10.62 |
| Public buildings | 532 | 12 | 544 | 5.83 | 1.12 |
| Water | 414 | 284 | 698 | 7.48 | 1.44 |
| Energy | 179 | 106 | 285 | 3.05 | 0.59 |
| Communication | 2,261 | 387 | 2,648 | 28.38 | 5.45 |
| ***Other - environment*** | | ***5,238*** | ***5,238*** | | ***10.79*** |
| **TOTAL** | **29,357** | **19,196** | **48,553** | | |

Source: Government of Vanuatu – PDNA (2015).

4. The PDNA found that Tropical Cyclone Pam produced different effects across the different economic and social sectors. The sectors that sustained the greatest damage were the productive sector (39% of all disaster effects) and social sector (31% of all disaster effects). Within the productive sector, tourism accounted for 50% of sector effects and 20% of the total disaster effects while within the social sector housing accounts for 66% of sector effects and 21% of total disaster effects followed by education accounting for 26% of sector effects and 8%

[1] Government of Vanuatu. 2015. *Post Disaster Needs Assessment, Tropical Cyclone Pam, March 2015*. Port Vila

[2] The 2013 nominal GDP was VT 75.8 billion, according to the Vanuatu National Statistics Office.

of total disaster effects. In addition, the environmental sector suffered significant losses to ecosystem services, although these losses are not accounted within the impacts to GDP.

5. Damage was the greatest in Shefa Province, whereas expected losses are the greatest in Tafea Province. Total damage and losses are estimated at VT 31.9 billion (66% of the total) for Shefa Province, VT 10.3 billion (21%) for Tafea Province, VT 3.0 billion (6%) for Penama Province, and VT 2.9 billion (6%) for Malampa Province.

6. Tropical Cyclone Pam affected communities and individuals in a number of ways that will require support, intervention, and monitoring. The cyclone has seriously harmed the livelihoods of over 40,000 households, severely limiting their capacities to generate income and resulting in losses of around VT 1.6 billion in personal income. Tropical Cyclone Pam also extensively damaged or destroyed community infrastructure, disrupting daily life and—at a time when incomes have been lost—requiring extra expenditures to pay for repairs or replacement.

7. While the destruction of physical assets by the cyclone occurred in March 2015, production losses and associated higher costs of production will linger for some time. The negative impact of the disaster on overall economic conditions in the country will thus be felt for several years to come.

8. **Damage and losses in the transport sector**. By the estimated costs of damage and losses, the infrastructure sector accounted for 19% of total disaster effects, transport infrastructure accounts for 55% of sector effects and 11% of total disaster effects followed by communication infrastructure accounting for 28% of sector effects and 5% of total disaster effects. The damage and loss estimate for the transport sector provided in the PDNA is VT 5.15 billion, of which roads and bridges accounts for 47% (VT 2.44 billion). Damages and losses in Shefa Province (where Efate is located) accounts for 90% of total transport infrastructure damages and losses.

9. The transport infrastructure networks and facilities throughout Vanuatu suffered severe physical damage as a result of Tropical Cyclone Pam. Most damage was recorded in the provinces of Malampa, Penama, Shefa, and Tafea, which were located directly in the cyclone's path. Vanuatu's transport infrastructure was severely damaged by Tropical Cyclone Pam. Partial damage was incurred at all three international airports and at 11 or more of the minor domestic airports and airfields. Partial damage was also recorded to wharves and jetties, and there was significant damage to marine vessels, in particular the smaller fleet. Damage to roads and bridges was confined to bridge-approach, culvert, and pavement washouts and blocked drains. About 80% of the road network was completely blocked due to fallen trees.

10. The immediate effect on the transport sector was to (i) sever all modes of transportation, (ii) hamper access to markets in Port Vila and other business centers and the surrounding communities, and (iii) hinder access to education and health facilities in villages and communities. Even though the cyclone path itself missed the northern provinces of Torba and Sanma, the associated rain caused flooding damage to culvert crossings, road pavements, and aerodromes in these two provinces.[3] Losses in the sector were the result of delays in travel time at blocked sections of major and heavily trafficked paved roads and bridge-approach washouts; loss of revenue to the aviation sector as a result of cancelled flights; and loss of business to the maritime sector resulting from ships' inability to sail (in particular, the staying away of cruise

[3] For consistency, damage and losses in Torba and Sanma were omitted from the PDNA transport assessment.

liners) and the salvage costs of those passenger vessels that either sunk or ran aground during the cyclone.

11. The PDNA concluded that transport infrastructure remains vulnerable to further damage and total failure unless emergency protective repairs are carried out immediately and restoration work is designed with sound engineering solutions to make the infrastructure climate resilient.

12. Emergency attention is required to address (i) the airport at Lamen Bay on Epi Island; (ii) the landslide at Klehm's Hill on the Efate ring road; and (iii) the washed-out sections to the north of the Efate ring road. Proper engineering solutions that include climate-proofing measures need to be implemented immediately before further damage is inflicted by heavy rain.

13. **Summary of recovery and reconstruction costs**. Total recovery and reconstruction is estimated at VT 34.1 billion (US$316 million). Of this amount VT 10.3 billion (US$95 million) is focused over the short-term (12 months to four years). The estimated cost of reconstruction in the transport sector is a total of VT 3.92 billion, with VT 2.18 billion required to address short-term needs (next 12 months) and VT 1.73 billion required to address medium term needs (next 2-4 years).

14. **The project**. Vanuatu's transport sector is of critical importance to—and underlies—its economic and social development. For example, 70% of rural communities live near the coastline, and 66% of rural communities rely on artisanal and subsistence fishing to meet a portion of their subsistence and income needs. Thus the transport systems not only support the country's economic life; they also affect the ease and cost with which government administration and businesses operate, and with which households and communities interact and access markets and social and cultural facilities.

15. ADB emergency assistance will be provided for reconstruction and rehabilitation of priority sections of the Efate Ring Road damaged by the cyclone. The impact of the project will be socioeconomic activities restored to at least pre- Tropical Cyclone Pam levels. The outcome will be damaged infrastructure restored and more resilient connectivity provided. The project will have one output: transport infrastructure in priority locations reconstructed, and climate and disaster-proofed. The subprojects will include reconstruction of roads, bridges, bridge approaches, culverts, head walls, scour protection works (road, approach roads, river banks, abutments, piers), river training works, selected rivers and streams, drainage systems, including disaster and climate proofing, and reinstatement of landslide at Klehm's Hill all on Efate ring road.

16. **Project implementation**. The project will be implemented between October 2015 and March 2019, which is longer than the typical period of two years for emergency assistance projects. This extended implementation period is justified because the project will not only assist with reconstruction and restoration, but will also adopt a "building back better" approach, providing transport infrastructure assets with improved disaster and climate resilience.

17. Project preparation was undertaken between June and July 2015 in response to the March request from the government to provide emergency assistance. The Ministry of Infrastructure and Public Utilities (MIPU) will be implementing agency. The Public Works Department (PWD) within MIPU will be involved in day-to-day implementation through its Project Management Unit (PMU). The PMU will report to Infrastructure Working Group (IWG) comprising Director Generals of Ministry of Finance and Economic Management, MIPU, Ministry of Education and Training, and Ministry of Health. This is already established for infrastructure

reconstruction in transport, health, education and public buildings. The IWG reports to the Prime Minister's Office.

18. **Safeguards frameworks**. The purpose of this environmental assessment and review framework (EARF) is to provide a procedure for the environmental assessment and clearance of subprojects that will be identified and prepared during the course of the project. The objective of the EARF is to ensure that any environmental impacts of the project are identified, appropriately addressed and mitigated to acceptable levels.

## II. LEGAL FRAMEWORK AND INSTITUTIONAL CAPACITY

19. Environmental assessment and clearance of subprojects under the project will comply with the country safeguard system (CSS) of Vanuatu and ADB safeguard policy where there are gaps between CSS and best practice as set out in the Safeguard Policy Statement 2009 (SPS).

### A. Vanuatu Country Safeguard System

20. Environmental management in Vanuatu is provided through the Environmental Protection and Conservation Act (EPCA) [Cap 283], as amended by Act 28 of 2010, and the Environmental Impact Assessment (EIA) Regulations, Order No. 175 of 2011. Both are administered by the Department of Environment Protection and Conservation (DEPC) within Ministry of Climate Change, Meteorology and Geo-hazards, Environment, Energy, and Disaster Management (MCC).

21. The following summary is drawn upon reports prepared under the Vanuatu subproject being implemented through *Technical Assistance to Strengthening and Use of Country Safeguard Systems*.[4]

#### 1. Environmental Protection and Conservation Act 2010

22. The main parts of the EPCA deal with (i) administration; (ii) EIA; (iii) biodiversity and protected areas; and (iv) offenses under the Act. The Act provides for a department to develop, implement, and coordinate the Government's environmental policies and programs. The Act makes it mandatory to (i) prepare and publish a national state of environment report at least once every ten years and (ii) maintain a publicly accessible environmental registry.

23. The Act provides for establishment of Biodiversity Advisory Council, and specifically covers the issues of bio-prospecting and community conservation areas.

24. Under the EPCA all activities or proposed projects that impact or are likely to impact the environment of Vanuatu must make an application for approval to DEPC. There is a schedule to the EIA Regulations that sets out the types of activities/projects that require an approval from the department. For all of these activities, once an application is lodged and fee paid, the DEPC EIA Unit officers carry out a preliminary environmental assessment (PEA) and determine whether an EIA is required or not. An EIA is required for those activities/projects that cause or are likely to cause significant impacts on *"environment, social and/or custom*". The EIA report

[4] ADB. 2010. *Technical Assistance for Strengthening and Use of Country Safeguard Systems*. (RETA 7566-REG, approved by the Board in July 2010 for $5 million under Technical Assistance Special Fund IV and major change in scope and increase in TA amount to $8 million approved by the Board in October 2011). The Vanuatu environment subproject was approved in 2014.

and environmental management and monitoring plan (EMMP) are submitted to the Director of DEPC for review by an EIA review committee, which makes recommendations to the Director. The Director can then: approve the application (with or without conditions); refer the matter back to the EIA review committee for further assessment; or reject the application.

25. The legal analysis undertaken as part of the technical assistance (TA) to DEPC has identified these gaps in legislation and has proposed a number of gap-filling measures.[5]

26. The environmental assessment process is applied to those projects that come under the definition of the EPCA (i.e. those that impact or are likely to impact the environment). A schedule to the regulations lists a wide variety of developments that need to be referred to the department for a preliminary environmental assessment by officers, some of these nominated developments are more to do with planning rather than environmental impacts, for example the need for PEAs for retail stores in urban areas. This has broad span of developments requiring PEA in large part comes about due to a failure of land use planning processes rather than the actual environmental impacts of activities.

### 2. EIA Regulations 2011

27. The EIA Regulations require that the projects, proposals or development activities specified in Schedule 1 are subject to the EIA provisions of the EPCA and establishes the procedures for undertaking the environmental assessment of any development activities or projects with likely environmental impacts. The proponent is required to first submit an application containing a description of the proposed activity/project and identification of likely environmental impacts and required measures to avoid or mitigate the impacts. On receipt of the application, the DEPC undertakes PEA (review) and recommends whether (i) no further assessment is required and a permit can be granted (with or without conditions) or (ii) further study and an EIA.

28. It is the EIA Regulation that set out requirements for the EMMP, which under the Regulations must: (i) describe, in respect of the project, proposal or development activity, the environmental protection measures that will be put in place by the project proponent if approval is given for the project, proposal or development activity; (ii) include an environmental monitoring and surveillance program of action; and (iii) provide for an environmental monitoring manager to be appointed by the project proponent, in consultation with the DEPC, to verify that the EMMP and protection measures are being fulfilled and adverse impacts of the project, proposal or development activity are documented.

### 3. Other Legislation and International Conventions

29. Other legislation could also apply to the project as follows.

30. Waste Management Act 2014 provides for the protection of the environment through encouragement of effective waste services and operations. The Act is administered by DEPC and sets out the responsibilities of agencies and people in relation to waste management, it establishes the regulatory environment for designated waste management operators, and identifies offences in relation to waste and waste management.

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[5] ADB. 2014. *Technical Assistance for Strengthening and Use of Country Safeguard Systems (RETA 7566-REG)*, Vanuatu environment subproject, Final Report 1 – Legal Analysis.

31. Pollution (Control) Act 2013 is also administered by DEPC and covers the obligations of owners and/or occupiers of premises to take pollution control measures and stipulation for permits to discharge pollutants. Despite the provisions of any other legislation, the Act requires that any persons and agencies with responsibilities under the Act, or whose functions and powers may relate to any matter or thing involving the environment, are to apply the precautionary principle when discharging their responsibilities and functions, or exercising their powers. The Act also requires that in any decision making made under the terms of this Act must be guided by consideration of climate change adaptation and mitigation issues.

32. Foreshore Development Act 1975 and Amendment Act 2013 deal with regulating the carrying out of works on the foreshore. The Acts states that no person shall undertake or cause or permit to be undertaken any development on the foreshore of the coast of any island in Vanuatu without having first obtained the written consent of the Minister of Planning.

33. The Amendment Act requires that the consent is also subject to any requirements set out in any other Act in relation to any development. In addition the consent application requires (i) consultation with, and consent of, the foreshore landowners; and (ii) a description of the proposed works including plans, maps and drawings.

34. The Quarry Act 2013, Health and Safety at Work Act 1987 and Labor Act (as amended) 2009 will also apply.

35. Other legislation that has implications for resource development and management and potentially the project is included in Appendix 1A.

36. Vanuatu is a signatory to a number of international agreements with environmental and conservation implications. These may be found in Appendix 1B.

37. The DEPC also has policies, plans and strategies in draft form including: (i) DEPC Strategic Plan 2014-2024; (ii) National Environmental Management Strategy (NEMS); and (iii) National Environment Policy (NEP). The DEPC Strategic Plan 2014-2024 includes a range of activities for the development of the department. Included in the plan is the intention to restructure to meet operational needs as well as have offices in all six provinces. The timeframe for the restructure and establishment of provincial offices is set in the plan to be achieved within the next four years (i.e. by 2019). Although optimistic in its aims, the plan is also pragmatic and points out that all formal requests for restructure and expansion of the department will need to be made through current formal government processes. The plan also notes that any such changes will be dependent on these requests being agreed to and then a suitable budget made available.

## B. Institutional Framework and Capacity

### 1. Ministry of Climate Change, Meteorology and Geo-hazards, Environment, Energy, and Disaster Management

38. The DEPC is responsible under the EPCA to administer the Act which includes approval of environmental assessments. Since 2013 it has been part of the MCC. Prior to this the Department was located within the Ministry of Lands and Natural Resources and it became a full department in the Ministry of Lands in 2010 having been the Environmental Unit for several years prior. The MCC was created in 2013 and the DEPC was incorporated into the new ministry at the end of that year.

39. The MCC comprises four separate units or departments: Vanuatu Meteorology and Geo-hazards Department; National Disaster Management Office; Department of Energy; and DEPC. With the exception of DEPC, all the MCC's units and departments are housed in a purpose-built office building in the Nambatu area of the city. The DEPC is located in the Pompidou government buildings on the other side of town close to the MIPU and VPMU offices but physically distant from its own Ministry.

40. DEPC has a Director who oversees the department which currently has a total of ten permanent positions, including the Director. All officers are permanent full-time staff. Of the ten permanent DEPC staff positions, no positions are technically vacant. However one (Director) is filled by an acting incumbent leaving the vacated position temporarily vacant until a new director is appointed and the incumbent can return to his original position. Two positions are temporarily vacant (around one year for each position) due to staff on extended study leave overseas. Two other positions are currently vacated by staff on leave for up to six months.

41. This effectively means that the DEPC has a current vacancy rate of 50% with no arrangements in place to cover these vacancies as there are neither juniors nor budget available to fill the vacant positions. The remainder of the department comprises contracted project staff or volunteers.

42. In addition to permanent positions there are a further seven project positions within the department plus two overseas volunteers. According to the DEPC's 2013 annual report, the department consists of four units with ten staff however the department's formal structure diagram doesn't include units or divisions. In practice the department is split up into four units: Biodiversity and Conservation (one staff member); Environmental Protection (Waste Management one staff member), Environmental Planning and Assessment (three staff with one being the Santo based department officer); Administration and support services (four staff including a principal environment officer); and the Director.

43. DEPC's budgeted expenditure in 2014 was VT 20,073,849 that is less than 10 % of its MCC's total budget of VT 234,984,043. The department's staff costs in 2014 were VT18.3 million leaving just under VT1.8 million for all operational and capital expenditure.[6] This limited budget appears to date from before 2010 when the department was an operational unit within the Department of Lands. The DEPC budget has never been adjusted to take this change of status into account. As a result, the department's budget is still largely based on the needs of an operational unit within a department and so lacks the comprehensive budget normally found in a government department.

### 2. Ministry of Infrastructure and Public Utilities

44. The Ministry of Infrastructure and Public Utilities (MIPU) is the key government agency responsible for infrastructure development and the management of public works. The Ministry of Infrastructure and Public Utilities is one of the larger ministries within the government with over 250 employees. It is also one of the more established ministries with well-developed human resources functions and has had the benefit of donor support for capacity development through infrastructure development programs.

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6 Government of Vanuatu. 2014. Minister of Finance report to Vanuatu Parliament. Port Vila, Vanuatu (2 Dec).

45. MIPU comprises four divisions. These are: Public Works Department (PWD) which has 188 positions, including staff in works depots in all six provinces; the Civil Aviation Authority which has 17 positions; Corporate Services Unit with 10 positions, and the Department of Ports and Harbours with 56 positions.

46. MIPU, through PWD administers infrastructure development projects and infrastructure maintenance. PWD has recently developed a social safeguards framework (SSF) through the Vanuatu Transport Sector Support Program (VTSSP). The VTSSP is financed by the Department of Foreign Affairs and Trade (DFAT) of the Government of Australia and is now in its second phase. The VTSSP includes support for social safeguards and other institutional strengthening within MIPU such as human resource management and procurement.

47. The SSF for VTSSP is currently being implemented by PWD. Implementation includes capacity development and training for PWD staff and local contractors in the provinces and was developed partly in response to challenges face in the first phase of the programme. MIPU and PWD intend to apply the SSF to other infrastructure projects and PWD work programmes over time however currently the focus is on the VTSSP. Environment is included in the SSF however understanding and capacity for environmental elements is relatively weak. The current emphasis is largely on social safeguards with only one out of the seven elements of the SSF being environment.

48. As the PWD is one of the few central government departments with line staff in the provinces (where DEPC has no operational staff) it would be useful to improve understanding of environmental safeguards for PWD staff and contractors in the provinces.

49. A recent step towards strengthening CSS implementation is the PWD appointment of a Senior Safeguards Officer and also an Environmental Safeguards Officer. These are new appointments and these officers will be involved with this TA and the DEPC as it is progressively implemented in those areas of PWD work outside the VTSSP.

## C. ADB Safeguard Policies

50. The objectives of ADB's safeguards are to: (i) avoid adverse impacts of projects on the environment and affected people, where possible; (ii) minimize, mitigate, and/or compensate for adverse project impacts on the environment and affected people when avoidance is not possible; and (iii) help borrowers/clients to strengthen their safeguard systems and develop the capacity to manage environmental and social risks. Through its SPS ADB establishes policy objectives, scope and triggers, and principles for three key safeguard areas of environment, involuntary resettlement, and Indigenous People. The SPS sets out the process to be applied from screening, through due diligence and assessment to monitoring and reporting.

51. **Screening and categorization.** SPS requires project screening and categorization at the earliest stage of project preparation. Screening and categorization is undertaken to (i) reflect the significance of potential impacts or risks that a project might present; (ii) identify the level of assessment and institutional resources required for the safeguard measures; and (iii) determine disclosure requirements.

52. ADB uses a classification system to reflect the significance of a project's potential environmental impacts. A project's category is determined by the category of its most environmentally sensitive component. Each proposed project is scrutinized as to its type, location, scale, and sensitivity and the magnitude of its potential environmental impacts.

Projects are assigned to one of four categories.[7] The category determines the level of assessment required.

53. **Due diligence.** ADB's safeguard due diligence emphasizes planning, environmental and social impact assessments and safeguard documentation. Through such due diligence and review, ADB will confirm (i) that all key potential social and environmental impacts and risks of a project are identified; (ii) that effective measures to avoid, minimize, mitigate, or compensate for the adverse impacts are incorporated into the safeguard plans and project design; (iii) that the borrower/client understands ADB's safeguard policy principles and requirements and has the necessary commitment and capacity to manage the risks adequately; (iv) that, as required, the role of third parties is appropriately defined in the safeguard plans; and (v) that consultations with affected people are conducted in accordance with ADB's requirements.

54. **Health and safety.** The project will be required to provide workers with a safe and healthy working environment, taking into account inherent risks, any hazards in the work areas, including physical, chemical, biological, and radiological hazards. The SPS also requires that the government, through the implementing agency, will take steps to prevent accidents, injury, and disease arising from, associated with, or occurring during the course of work.

55. The project will adhere to international good practice, as reflected in internationally recognized standards such as the World Bank Group's Environmental Health and Safety Guidelines.[8]

56. **Monitoring and reporting.** Both government and ADB have their own separate monitoring responsibilities. The extent of monitoring activities, including their scope and periodicity, will be commensurate with the project's risks and impacts. Governments, through the implementing agency, are required to implement safeguard measures and relevant safeguard plans, as provided in the legal agreements, and to submit periodic monitoring reports on their implementation performance. Monitoring and supervising of social and environmental safeguards is integrated into the project performance management system. ADB will monitor projects on an ongoing basis until a project completion report is issued.

57. **Safeguard frameworks.** Frameworks are required for projects, such as emergency projects or sector projects, where the types of activities to be undertaken and types of subprojects to be implemented are known in general terms but only a small number of subprojects might be identified during project appraisal. The frameworks set out the processes to be followed for the project as a whole and for individual subprojects as and when they are identified. The frameworks will cover the types of subprojects to be implemented (in terms of identifying generic impacts and mitigations) and clearly identify the process to be followed (from screening through to monitoring) and the implementation arrangements (procedures, roles, responsibilities, and budget).

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[7] Category A if it is likely to have significant adverse environmental impacts that are irreversible, diverse, or unprecedented, and impacts may affect an area larger than the sites or facilities subject to physical works. Category B if its potential adverse environmental impacts are less adverse than those of category A projects, impacts are site-specific, few if any of them are irreversible, and in most cases mitigation measures can be designed readily. A project is Category C if it is likely to have minimal or no adverse environmental impacts.

[8] World Bank Group. 2007. *Environmental, Health, and Safety General Guidelines.* Washington, DC.

58. Subproject selection, environmental assessments, EMPs, and safeguard monitoring reports prepared during project implementation will conform with this EARF agreed to by the government and ADB.

## D. Review of Country Safeguard System

59. A review of the legal framework for CSS undertaken as part of *Technical Assistance for Strengthening and Use of Country Safeguard Systems (RETA 7566-REG)*[9] concluded that the environmental legislation of Vanuatu is fully equivalent with 26 of the 75 key elements (34.67%) of the ADB's safeguard requirement 1: environment (SR1) principles, including most of the basic components of environmental assessment. National legislation is partially equivalent with 24 of the key elements (32.0%), and not equivalent with 25 of the key elements (33.3%).[10]

60. The review noted that the Vanuatu legislation and policies are fully equivalent with most of the basic components of environmental assessment. The overall objective of ensuring the environmental soundness and sustainability of projects and to support the integration of environmental considerations into the project decision-making process is provided by the EPCA and the EIA Regulations. It can also be found in legislation from certain line ministries, including legislation on forestry and mining (including quarries) and may also be seen in a number of policies, including the Priorities and Action Agenda 2006-2015, the DEPC Strategic Plan 2014-2024, the National Biodiversity Conservation Strategy 1999 (although this is now out of date and is currently being revised), the draft National Environment Policy and the draft National Environmental Management Strategy.

61. **Recommendations**. The recommendations to bring about full equivalence include:

- A number of revisions to the EPCA;
- A number of revisions to the EIA Regulations;
- A number of revisions to the PEA format;
- The adoption of a format (minimum requirements) for the EIA Report;
- The adoption of a format (minimum requirements) for the EMMP;
- Clarification of the interaction between the EIA process and the Pollution (Control) Act and the Public Health Act;
- Adoption of the implementing regulations under the Pollution (Control) Act;
- Adoption of the implementing regulations under the Waste Management Act; and
- Adoption of the implementing regulations under the Health and Safety at Work Act.

62. A number of the recommendations relate to the EIA procedure for projects likely to have significant environmental, social and/or custom impacts, while others relate to the initial PEA procedure.

63. A second phase TA, to be implemented in 2016, will develop and take a forward a number of the recommendations.

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[9] ADB. 2010. *Technical Assistance for Strengthening and Use of Country Safeguard Systems; Guidance Note for Review of Country Safeguard Systems* (November 2010). (RETA 7566-REG, approved by the Board in July 2010 for $5 million under Technical Assistance Special Fund IV and major change in scope and increase in TA amount to $8 million approved by the Board in October 2011).

[10] ADB. 2015. RETA 7566-REG Vanuatu Subproject: Strengthening Implementation Capacity for EIA in Vanuatu; C*ountry Safeguard Review - Legal Analysis Report*.

# III. ANTICIPATED ENVIRONMENTAL IMPACTS

64. In assessing reconstruction needs, the government has prioritized the reconstruction of transport sector infrastructure and adopted the building-back-better principle by requiring that damaged assets are rebuilt to a higher standard of climate and disaster resilience. According to the PDNA, total recovery and reconstruction needs for the transport sector on Efate ring road is estimated at $17 million. This estimate was prepared through rapid assessment without and detailed investigations and engineering designs and will require revisiting.

65. On Efate, the torrential rains accompanying the cyclonic winds created very large and fast moving flows as well as debris build up resulting in high water pressure and flood damage to steep and coastal road sections alike and bridges (approaches, piers, abutments, wing walls, and service connections). Several culverts and head walls collapsed or washed away. High waves and storm surges scoured half the width of the sealed road at several locations. Flood waters broke river banks and cut through the approach roads and a number of rivers relocated from their original course. In so doing rivers and streams have meandered and widened on both the up and down stream of the bridges. While none of the bridges were completely destroyed, several major components of the bridges such as wing walls and approach roads will require reinstatement/reconstruction and protection against such extreme events in the future. About 17km of the sealed section of the ring road, which mostly runs on very flat and low lying terrain with several sections close to the coast, suffered extensive pavement damage, sections of road have been undercut and threaten further failure, and roadside drains were blocked with silt, accumulated sediments and debris. A major landslide occurred at Klehm's Hill about 15km north of Port Vila.

66. This project will repair and reconstruct the damaged ring road on Efate; the project will target damaged bridges, culverts, low level crossings (causeways), coastal sections in need of protection works, and steep sections affected by landslides. Minor repairs and re-instatement of drainage systems will be included. The project will include works in several sections of the ring road–to be prioritized during the design phase--and will reinstate connectivity at the damaged locations. The types of works that will be included are:

- Ripping up or scarifying damaged seal and replacement of seal;
- Bridge repairs – deck replacement, abutment and/or pier replacement or strengthening/protection, removal of in-stream debris build-up, and bank protection;
- Replacement of, or construction of new, low-level crossings or box culverts;
- River training for up and/or downstream river realignment (where rivers and streams have changed course due to debris build up);
- Removal of landslide debris;
- Clearing drains, installation of new drainage, repair of damaged drainage, deepening areas with insufficient/inadequate drainage; and
- Provision of coastal protection in sections of road located close to the sea and experiencing erosion and damage from storm surges and king tides.

67. Based on experience with other projects in the sector, it can be anticipated that most of the impacts will be site-specific, are not particularly significant as road segments and bridges to be repaired will be reconstructed within their existing location, i.e., within the already existing road corridor. Thus, land acquisition and associated issues with regard to disturbance of cultural sites, destruction of significant vegetation or habitats is unlikely to be an issue. If any minor

realignment of road sections are proposed as a climate proofing or adaptation measure, they will be screened and assessed as per the safeguards frameworks.

### 1. Design and Location Impacts

68. **Climate change.** The design of the road at both inland and coastal locations will consider potential impacts of climate change including: sea level rise, extreme high tides, storm surges, coastal flooding, cyclones, and heavy rainfall events. Much of the damage that has occurred to structures is due to heavy rainfall events arising from prolonged heavy rainfall and subsequent debris carried in deluge events. The replacement or repaired infrastructure will be climate proofed as far as practicable.

69. **Runoff management design.** Based on mitigations identified in environmental assessments and integrated into EMPs, roadside storm-water drainage will include the following recommendations:

- Cross drainage using culverts will be carefully evaluated to ensure that systems do not fail from excessive discharge.
- Where the road traverses ridges, side drains (off-takes) are required to direct storm water flows away from the road. These are to be established at 2 m vertical intervals (VI) where bare earth channels will be maintained. If a 2 m VI cannot be achieved then consideration will need to be given to vegetated channels with a VI of 4 m or otherwise armored with concrete or half round steel pipes.
- Where cross drains are required stable outlets will provided that can carry the runoff safely to the disposal area. Culverts and drains must not be allowed to terminate above a disposal area without considering the possible effects on the stability of the discharge area.
- All pipe and box culverts must have flared level outlets and be provided with a vertical cut-off wall at the end of the apron that extends at least 0.35m below the apron to avoid the apron being undercut.
- All culverts are to discharge to safe (non-eroding) areas.
- Regular maintenance of roadside drainage systems is required.

70. **Flora, fauna and protected areas.** Flora and fauna will be identified in the environmental assessments. Measure to mitigate any impacts on flora and fauna will be integrated into the EMP. As noted previously, the road corridor does not traverse critical or natural habitats and is not located in, or adjacent to, protected areas or conservation areas.

71. **Land acquisition.** A resettlement framework has been prepared for the project. This will guide the process for any work that necessitate access to land beyond the existing road corridor, including temporary access arrangements required while new bridges are being constructed. The procedures set out in the resettlement framework will be followed by the PMU. Any resettlement plans or due diligence reports, as required, will be submitted to ADB for review and clearance.

### 2. Construction Impacts

72. **Air quality.** During the construction phase, the activities that could produce impacts on air quality are emissions from vehicles or machines and dust raised from the construction activities. Vanuatu currently does not have emission or air quality standards. Since the impact on air quality is likely to be minimal, no rigorous air quality monitoring is expected to be required.

Dust may become a nuisance to surrounding communities from construction activities. Where dust will be an issue, the contractor will limit the working area and reduce vehicle movements. Water will be sprayed on affected areas as required to keep dust down both at the worksite and on haul routes that pass through residential areas. Stockpiles may also release dust into the surrounding area and therefore should be covered when not in use.

73. **Noise.** There are villages and noise sensitive receptors (school, health center, church) within the road corridors. In such locations noise will be controlled, with no construction activities taking place between 1900 hrs and 0700 hrs. Ideally, noise should not exceed 45 dBA measured at the outside of any house or noise sensitive receptor.

74. **Vibration.** For compaction of the road base and materials/aggregate or other activities such as pile driving for bridges, the contractor will establish the following:

- Type and size of impact of equipment
- Zone of influence for the equipment
- The contractor will be the responsible for assessing the condition of buildings that may be susceptible to vibration within the zone of influence before commencing any work.
- The contractor will be responsible for any damage caused as a result of operating this equipment.
- Prior to commencing work with any vibrating machine, the contractor will arrange to advise people in nearby houses that this work is due to commence.

75. **Sources of aggregates.** Sources of materials for the project will comply with the requirements of the Department of Geology, Mines and Water (DGMW) within the Ministry of Land and Natural Resources and the Quarry Act 2013 as well as best practice for extracting, storing and transporting materials.

76. Should a contractor elect to source aggregates locally, the contractor will be required to ensure that aggregate is sourced from sites that have a permit issued by the DGMW either to the owner of the quarry, to the PWD or directly to the contractor for the extraction of materials.[11] Any site that is opened by the contractor will comply with relevant laws and requirements including the documentation to accompany the permit application (work program, site plan, EMP, health and safety plan, and rehabilitation plan).

77. **Soil and erosion.** During construction, excavated areas will need to be assessed for potential soil erosion damage and protection arranged as necessary to avoid the movement of eroded soil from the site into watercourses and onto adjoining areas including the worksite. Caution will be required for work on steep slopes such as at Klehm's Hill, which requires stabilization following landslides. Arrange to limit the area that is being excavated and use soil conservation technology such as silt fences to reduce and control erosion from these areas. At the completion of work, all disturbed areas will be stabilized by re-vegetation techniques.

78. **Water quality.** Water quality can be affected during construction activities when soils, wastewater, oils and lubricants, sewage and other materials are allowed to move into the

[11] Under the Quarry Act, a person wanting to operate a quarry can apply for one of four types of permits; commercial permit; landscaping permit; PWD permit; or occasional permit covering different scales of operations (large quarry > 50,000 $m^3$/year and not exceeding an area of 100 ha; medium quarry 20,000-49,999 $m^3$/year and not exceeding an area of 10 ha; small quarry 501 – 19,999 $m^3$/year and not exceeding an area of 5 ha; occasional quarry must not exceed a period of one month and not exceed 500 $m^3$).

environment. Construction activities that may exacerbate the movement of these materials into the fresh or marine water environments will be examined and mitigation measures developed.

79. **Flora, fauna and protected areas.** During the construction phase, flora and fauna can be affected, but any potential impacts are considered to be minimal as the construction work will be performed at previously developed sites and the previous operation of the road will have already disturbed fauna in these areas. The works will focus on reconstruction within existing corridors. The road corridor does not traverse critical or natural habitats and is not located in, or adjacent to, protected areas or conservation areas.

80. **Physical cultural resources.** The existing road corridor is unlikely to be located in areas where there are any known physical cultural resources (sites, areas) that could be damaged during excavation or other construction activities. The EMP contained in the environmental assessment will include chance find procedures, in the event of any accidental discovery during construction activities.

81. The contractor will consult with local leaders and authorities if new sites for sourcing materials are required, to allow for areas of cultural importance to be avoided. Potential material or quarry sites are anticipated to be existing sites, but where new sites are brought into operation for the project, the contractor will be required to follow the requirements of the Quarry Act which requires feasibility study of the extraction to be prepared and submitted to DGMW for approval prior to commencing material removal including (i) a plan setting out site, volume, methodology of extraction, transport and stockpile, and mitigations, and (ii) obtaining a quarry permit from DGMW.[12]

82. **Community health and safety.** The repair and reconstruction works will likely be undertaken through international competitively bid package(s) which will require a mix of international and national workers. Some works, such as drain clearing, culvert and scour protection works can utilize a greater proportion of unskilled and local labor.

83. Local people can also be hired as security guards, cooks, cleaners and providers of local produce at works sites and the works yard(s). This will reduce possible conflicts between outside labor and local communities. The EMP will include measures to protect the health and safety of communities including; (i) work sites and yard(s) being properly fenced and guarded; (ii) unauthorized people will not being permitted into the work sites; (iii) implementation of the project's consultation and participation plan which will set out the protocols to be implemented by the contractor and which will guide interaction between community and construction workers; and (iv) contractor will engage an approved service provider to deliver sexually transmitted infection and HIV awareness and prevention training and presentations with local communities and the workforce.

84. **Worker health and safety**: A number of activities, plant and products can give rise to health and safety impacts during the construction phase. Most of these impacts can be managed and/or mitigated. The potential impacts are (i) contamination of local water supplies by potential contaminants such as sediments, fuel products and lubricants, and sewage giving rise to gastro-intestinal problems; (ii) air pollution from exhaust fumes and dust giving rise to respiratory conditions; (iii) risk of accidents at work sites; and (iv) spread of communicable diseases. Contractors will observe general health and safety requirements and as a minimum

[12] The feasibility study or extraction plan will also require the contractor to consult with local leaders and authorities to allow for areas of cultural physical resources, heritage or importance to be avoided.

must comply with the Health and Safety at Work Act 1987, Labor Act (as amended) 2009 and the World Bank Group's Environmental Health and Safety Guidelines. The contractor will be required to provide personal protective equipment to workers.

### 3. Operation Impacts

85. **Soils and erosion.** Any excavation sites will be either filled in or stabilized during construction. Soil erosion from the road itself is not expected. Roadside drainage systems will require to be maintained and this will require the removal of accumulated sediments or vegetation. If vegetation control is required in drains, this should be removed manually (by slashing) rather than excavated by machine which will leave behind a larger and an erodible surface.

86. **Flora and fauna.** Impacts on flora and fauna are generally expected to be low as the road has already provided the initial access to these areas. As the reconstruction works will take place in the existing road corridor there will be no potential for adverse impacts that could arise from increased access to inland forests or other habitat areas.

87. **Health and safety.** While there is not expected to be any significant changes in road locations, the improved surface will increase traffic speed and coupled with greater traffic volumes it is likely that there will be a small increase in accidents. Should safety issues be determined, arrange the installation of traffic calming devices on the road, install signage and increase community awareness of traffic hazards.

88. **Risk of spread of communicable diseases.** Following the re-establishment of connectivity, there is potential risk of spread of communicable diseases resulting from mobility of people. The overall risk is considered to be negligible because the road corridor already exists, the ring road does not provide for any increased access beyond communities within the corridor, and the minor risk will be mitigated by the implementation of the awareness and prevention campaign conducted during the construction phase.

## IV. ENVIRONMENTAL ASSESSMENT AND MANAGEMENT

### A. Screening and Classification

89. Both the country system and the SPS require screening of project impacts to determine the potential risks and required level of assessment. The significance of project's environmental impacts determines the environmental categorization of the project. The subprojects (sections of the ring road) are located within an existing road corridor and therefore the project will not require implementing works in areas of critical or natural habitat or protected or conservation areas.

90. In terms of compliance with SPS, the overall project has been classified on a preliminary basis as category B. It is likely that each subproject will be category B, this will be confirmed through a screening when the prioritization process has identified what subprojects will be go forward under the project, this will allow sites and specific works to be known.

### B. Preparation of Environmental Assessments and Environmental Management Plan

### 1. Environmental Assessment

91. Environmental assessment in the Vanuatu is regulated by the EPCA and the EIA Regulations. The EIA Regulations establish the procedures for undertaking the environmental assessment of any development or activities that are likely to cause significant environmental, social/and/or custom impacts are subject to the EIA provisions of the EPCA and the Regulations. The proponent is required to submit an application for environmental permit which includes a description of the activity, likely environmental, social and/or custom impacts and proposed actions to mitigate the impacts. The DEPC undertakes a review of the application through the PEA process and determines whether further assessment through an EIA will be required.

92. According to SPS, for both Category A and Category B projects the environmental assessment to be prepared consists of eleven sections, the level of detail required being less for category B projects. The outline contents of an assessment are included in Appendix 2.

93. During the design stage of project implementation, and prior to commencement of any environmental assessment work, consultation with DEPC will be undertaken to discuss and agree the process to be followed and the environmental safeguard instruments to be produced to ensure they meet the EPCA and SPS. Following concurrence as to the approach, the screening, subproject descriptions and environmental assessments will be submitted as part of the permit application under the EPCA. DEPC will review the application and assessment through the PEA process and determine, based on that information, whether further information or assessment (through EIA) is required.

### 2. Environmental Management Plan

94. Each environmental assessment will include an EMP which sets out the mitigation and management measures to be taken during project implementation to avoid, reduce, mitigate, or compensate for adverse environmental (in that order of priority). For the project, because a subproject (road section) could include different types of water crossings in addition to any road repair works, the EMP may include multiple management plans and actions.

95. The EMP within the assessment should also comply with clause 9 (1) and (2) of the EIA Regulations.

96. **Mitigation**. The EMP will summarize the anticipated adverse environmental and social impacts and risks, describe each mitigation measure with technical details, and provide links to other mitigation plans (for example, for resettlement plans or reports) required for the project.

97. **Monitoring**. This part of the EMP will describe 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. The reporting and disclosure procedures will also be identified.

98. **Implementation arrangements**. The EMP will include an implementation schedule showing phasing and coordination with overall project implementation and describe the institutional organizational arrangements for responsibility for carrying out the mitigation and monitoring measures. This section of the EMP will also identify practical measures to strengthen environmental and social management capability that can be implemented during the project.

The section will estimate capital and recurrent costs and describes sources of funds for implementing the EMP.

99. **Performance indicators**. Where possible and practical, the EMP will describe the desired outcomes as measurable events, such as performance indicators, targets, or acceptance criteria that can be tracked over defined time periods.

# V. CONSULTATION, INFORMATION DISCLOSURE, AND GRIEVANCE REDRESS MECHANISM

## A. Consultation and Disclosure

100. Under both the EPCA and SPS consultation with affected and interested parties and stakeholders is required as part of the assessment process. The process, findings of the consultations, responses will be documented in the assessment report.

101. For any subproject requiring an environmental assessment, formal and documented public consultation and information disclosure will be required in accordance with the ADB SPS and Public Communications Policy 2011 and government's consultation and information disclosure requirements identified in the EPCA. This will be done at an early stage during preparation of the assessment and is to inform stakeholders of the project components and to encourage input to help identify environmental and community issues and concerns.

102. The information disclosed and feedback provided at the consultation sessions will be summarized, attendance recorded, and the document attached as an annex to the assessment report. Invited participants and attendees at consultation events will include government agencies (including provincial government), village and community representatives, as well as NGOs and civil society organizations. All consultations will follow the procedures set out in the consultation and participation plan (CPP) to be prepared for the project.

## B. Grievance Redress Mechanism

103. The process established and implemented under projects currently being implemented[13] which are based on traditional conflict resolution measures and are acceptable to ADB will be applied to the project (adapted as necessary).

104. The GRM will also be applied to the resettlement planning process and will be used to sort out, as far as possible, problems, concerns or grievances created by the project. If an issue or grievance with a specific environmental concern cannot be resolved then it will be addressed by being referred to the DEPC within the MCC.

## C. During Construction and Operation

105. The contractor's responsibility in respect of consultation and communication will be set out in the CPP and the relevant section of the CPP will be integrated into the EMP and bid and tender documents. The contractor will engaged with communities primarily through the community advisory committees and grievance redress committees established in each subproject area. The protocols for behavior of workers and conduct in and around villages will

[13] Vanuatu Inter-island Shipping Support Project and Port Vila Urban Development Project.

be set out in the CPP and will be an element of the EMP to help mitigate any impacts resulting from construction workforce and work sites/yards.

106. As per the GRM, any complaints arriving at the contractor's site office will be recorded in a register that is kept at the site and which will be subject to monitoring. The register will record complaints by date, name, contact address and/or phone number if available, and reason for the complaint. A duplicate copy of the entry is given to the person making the complaint for their record at the time of registering the complaint. The duplicate copy given to the complainant will also show the procedure that will be followed in assessing the complaint, together with a statement affirming the rights of the person to make a complaint.

107. The register will show who has been directed to deal with the complaint and the date when this was made together with the date when the complainant was informed of the decision and how the decision was conveyed to the complainant. The register is then signed off by the person who is responsible for the decision and dated. The register is to be kept at the front desk of the site office and will be a public document. For anybody making a complaint no costs will be charged to the AP.

108. MIPU and the PMU will be equally responsible for ensuring GRM is in effect during operation and maintenance. The same procedure will be followed except that the complaint is now directed to the PMU. During operation, the same conditions apply; i.e., there are no fees attached to the making of a complaint, the complainant is free to make the complaint which will be treated in a transparent manner, the complaint will be addressed within the timeframes identified in the GRM, and the complainant has recourse to other courts if not satisfied with the resolution offered through the GRM.

## VI. INSTITUTIONAL ARRANGEMENTS AND RESPONSIBILITIES

109. **Coordination and oversight**. The overall coordination and oversight of the recovery and reconstruction program is by the Prime Minister's Office. MFEM will be the executing agency of the project, and it will implement the project through the PWD of the MIPU. An infrastructure working group (IWG) will be established to coordinate and oversee the reconstruction of infrastructure in transport, health and education sectors including reconstruction of public buildings.[14] The IWG reports to the Prime Minister's Office. The Australian Department of Foreign Affairs and Trade (DFAT) will also provide funds for the recovery and reconstruction and recovery program in the transport, health and education sectors including construction of public buildings.

110. PWD intends to request DFAT to provide an international specialist as Program Coordinator who will coordinate the activities in each sector and report to IWG. To deliver the program and assist the Program Coordinator, sector, technical and safeguard specialists will be engaged.

111. The management roles and responsibilities of the various stakeholders are detailed in Table 6.1. The implementation arrangements will be described in detail in the draft project administration manual.

**Table 6.1: Project implementation roles and responsibilities**

[14] The IWG will comprise Director Generals of Ministries of Finance and Economic Management, Infrastructure and Public Utilities, Health and Education.

| Project implementation organizations | Management Roles and Responsibilities |
|---|---|
| Ministry of Finance and Economic Management | ➢ Executing agency and ministry representing the recipient |
| Ministry of Infrastructure and Public Utilities (through Public Works Department) | ➢ Implementing agency.<br>➢ Responsible for overall implementation of the project through PWD and PMU.<br>➢ Responsible for submitting withdrawal applications, reporting requirements, including submitting the annual audit report and audited financial statements and record keeping.<br>➢ Responsible for providing counterpart in-kind contribution (e.g., land, office space, taxes and duties, counterpart staff) for project components. |
| ADB | ➢ Financier through Asian Development Fund grant and loan and Global Environment Fund.<br>➢ Full administrator of the project. |

## A. Ministry of Infrastructure and Public Utilities

112. MIPU, through PWD, will be the implementing agency for the project, and overall implementation responsibility will be with the PMU. The role of the PMU will be overall project management and decision making. Feasibility studies (including safeguards assessments and consultation), detailed designs, and supervision of construction and civil works contractor will be the responsibility of the PMU.

113. A PMU comprising design and supervision consultants (DSC) integrated with PWD's engineering unit will be established in PWD to deliver the project activities. The PMU team leader will coordinate and manage the project activities and report to IWG. The PMU will coordinate the project activities with DFAT's Coordinator to ensure there is no duplication of activities in the road sector. PWD's engineering unit will be strengthened by mobilizing DSC (international and national consultants) to support the existing technical and managerial capacity. The PMU will be responsible for the detailed assessment, feasibility studies, detailed design, cost estimates, tendering, contract management and supervision and day-to-day implementation, including financial management, monitoring and evaluation. The PMU will use ADB disbursement procedures and financial management guidelines, and will maintain separate accounts for the project, which will be audited by an independent auditor. PMU will be responsible for procurement and administering contracts on behalf of PWD.

114. A team of international and national consultants will be mobilized and integrated into the PWD's engineering unit to strengthen PWD's technical and managerial capacity functions in the implementation of the project. The PMU will be responsible for design and day-to-day implementation, financial management, and monitoring and evaluation of the project. The Deputy Director of PWD will oversee the overall implementation of the project and will be directly assisted by international and national consultants and PWD's technical, financial, administration and clerical staff to carry out the day-to-day implementation of the project.

115. To support the implementation of the project, the PMU will be provided with additional consultancy services in the order of 320 person-months (pm) (150 pm international and 70 pm national).[15] The international consultants will be supported by national consultants and PWD's technical, administrative and financial staff.

[15] The person-months indicated are approximate and are subject to change after finalization of expert inputs based on the terms of reference.

## B. Design and Supervision Consultant

116. The DSC will include international and national specialists to implement the tasks set out in the terms of reference included in the project administration manual. Amongst a number of others, the DSC will include: (i) environmental safeguard specialist (international) (ESS); (ii) social safeguard/resettlement specialist (international) (SSS); (iii) safeguards specialist (national) (NSS); and (iv) gender and community development specialist (national) (GCDS). The DSC will be headed by a team leader.

117. General environmental management responsibilities of the DSC include:

- Through the team leader, ensuring that the environmental safeguards are implemented as set out in this EARF so as to meet intended requirements. This includes undertaking safeguards assessments during the feasibility study, ensuring that the EMPs form approved environmental assessments are including as part of construction section and tendering conditions of the bid and contract documents, and monitoring is undertaken.
- Supervising the implementation of the EMP during construction.

118. Within the DSC team, the ESS and NSS will have specific responsibilities for implementation of this EARF. Their duties include:

(i) During the project inception, brief the DSC team on the EARF and safeguard and CPP requirements that need to be implemented during the project.
(ii) Consult with DEPC to confirm the process and safeguards instruments to be prepared to meet both EPCA and SPS requirements.
(iii) Undertaking the screening of each subproject (including individual components such as water crossings at different locations) and identify main environmental impacts and prepare project descriptions.
(iv) Prepare the environmental assessments for the selected or prioritized subprojects as required to meet the requirements of this EARF.
(v) Undertake adequate consultations with affected people and studies of the subproject area/catchment to identify baseline conditions and impacts;
(vi) Prepare the environmental permit applications including subproject descriptions, screening forms, and assessments and after approval by PMU submit to DEPC for review.
(vii) Ensure that disclosure of the draft assessments is done in accordance with the project's CPP in compliance with ADB's Public Communications Policy (2011) and requirements under the EPCA.
(viii) Arrange for a copy and the conditions of the environmental permit issued by DEPC to be sent to the ADB.
(ix) During pre-construction, ensure that issues that need to be addressed by the design engineers are considered. Prepare a design brief containing main requirements for action by the technical design team.
(x) Based on detailed designs, update the EMP from the approved environmental assessment. Integrate the revised/updated EMP and DEPC's environmental permit conditions into the construction section of the bid and contract documents.
(xi) With the GCDS arrange public consultation to advise affected communities of the scope and scheduling of the subproject and to raise awareness within the communities of the likely phasing of events that will occur within their boundaries.
(xii) If required by the team leader, provide a review of environmental management aspects during bid evaluation.

(xiii) Following the award of the contract and prior to submission of the construction EMP (CEMP), provide EMP and safeguards induction for the contractor (if required).
(xiv) Ensure that contractor has access to the environmental assessments of the subprojects and the environmental permit conditions issued by DEPC.
(xv) Evaluate, and when satisfactory, advise team leader and/or PMU that the CEMP may be approved.
(xvi) Advise the contractor of their responsibilities to mitigate environmental impacts and implement the GRM for any issues associated with construction activities.
(xvii) With the project engineer, supervise and monitor the contractor's compliance with the approved CEMP. As required, issue defect notices concerning non-compliant work which will be channeled to the contractor via the project engineer. Any instructions or requirements for corrective actions will be issued through the project engineer.
(xviii) Prepare reports of site visits and compliance checks at least every two months, contribute to the quarterly progress reports (summary of compliance reports and contractor's monthly reports and any other safeguards activities including training seminars or workshops and the like), and prepare safeguards monitoring reports twice per year.

## C. The Contractor

119. The contractor will be responsible for complying with the environmental management requirements included in the contract as follows:

(i) Prior to construction commencing, the contractor will address the construction section of the EMP which will be developed into the detailed CEMP that addresses the development consent conditions and details working statements and methodologies as required by the EMP. It will include a monitoring plan and a reporting program. Submit the CEMP to the PMU for clearance.
(ii) Designate an environmental and safety officer and deputy environmental and safety officer who will take lead responsibility for implementation of the CEMP.
(iii) Provide briefings and training seminars for all workers (and sub-contractors as relevant) on the CEMP and safeguards requirements governing the project.
(iv) Following approval of the CEMP, the contractor is required to attend a site meeting where the CEMP is further discussed to ensure that all compliance conditions are clearly understood.
(v) The contractor's site engineer and environmental and safety officer will be responsible for daily supervision of the CEMP. The contractor is required to undertake work as directed by the project engineer (who will be assisted by the ESS and NSS). If the work is non-compliant with the CEMP or conditions, the contractor must respond to the defect notice issued and rectify the issue or work.
(vi) The contractor will cover CEMP implementation, including grievance redress, in the monthly reports that will be submitted to the PMU. The report will also contain the monthly accident/incident report.

## D. Department of Environmental Protection and Conservation

120. The DEPC will be responsible for: (i) through the ESS and NSS, coordinating and liaising with the PMU and confirming the process and safeguards instruments to be prepared for the project; (ii) reviewing the environmental permit application and determining whether further

information and/or assessment is required; (iii) upon accepting the applications and assessments, issue environmental permit with or without conditions; (iv) undertake periodic monitoring of the subprojects and implementation of environmental permit conditions as required; and (v) undertake to review the environmental grievances or complaints that cannot be resolved through the GRM.

### E. Asian Development Bank

121. During the project, the ADB will provide support to the PMU and DSC as required during review missions and at other times as required. ADB will review and clear environmental assessments prepared for subprojects and safeguards monitoring reports and disclose these documents as per Public Communication Policy 2011. Review missions will review the procedures being implemented by DSC, PMU, and the contractor, and will include review of screening, assessments, consultations, EMP updating, bid documents, CEMP preparation and compliance, and monitoring.

## VII. MONITORING AND REPORTING

122. Each EMP will contain a monitoring and reporting program suitable for the subproject. The DSC will be responsible for reviewing and updating the monitoring program to ensure that it meets the intention of the EMP and the ESS, NSS and contractor will be responsible for carrying it out. The DSC will undertake safeguards supervision and monitoring at least every two months, in addition to CEMP compliance checking being undertaken on a daily basis by the project engineer. Following the supervision and monitoring checks, reports will be prepared and submitted to PMU and MIPU.

123. The DSC will prepare quarterly progress reports that will summarize the CEMP compliance monitoring undertaken by ESS and NSS, the contractor's monthly reports and any other safeguards activities. These reports will be submitted to PMU, MIPU and ADB.

124. The DSC will prepare semi-annual safeguards monitoring reports on behalf of the PMU, and submit to MIPU and ADB. These reports will be disclosed.

125. ADB will prepare a project completion report after the project has finished. This report will summarize safeguards implementation (including any requirements for capacity building) and monitoring and comment on compliance with the EARF.

# APPENDIX 1 – RELEVANT LEGISLATION AND INTERNATIONAL AGREEMENTS

## A. Relevant Legislation

### 1. Constitution

- Constitution of the Republic of Vanuatu, 1980

### 2. Legislation

- Alienated Lands Act Chapter 143 (No. 12 of 1982)
- Convention on Biological Diversity (Ratification)(Act No. 23 of 1992)
- Customary Land Tribunal Act 2001 (No. 7 of 2001)
- Decentralisation and Local Government Regions Act (No. 1 of 1994)
- Environmental Protection and Conservation Act 2010
- Foreshore Development Act 1975 (No. 31 of 1975)
- Foreshore Development (Amendment) Act 2014
- Land Acquisition Act 1992 (No.5 of 1992)
- Land Acquisition Amendment Act 2014
- Land Lease Act Cap 163 (Act No.4 of 1983, No.10 of 1987)
- Land Reform Act Chapter 123 (Joint Regulation 31of 1980 – Act No.32 of 1985)
- Land Valuers Registration Act 2002 (No.23 of 2002)
- Mines and Minerals [Cap.190](Act No.11of 1986) National Parks Act, 1993.
- Pesticides (Control) Act 1993 (Act No.11 of 1993)
- Pollution (Control) Act 2013
- Preservation of Sites and Artefacts [Cap.39] (Joint Regulation 11 of 1965)
- Public Health Act (No.22 of 1994)
- Public Health (Commencement) Order (No.10 of 1995)
- Waste Management Act 2014
- Water Resources Management Act 2002 (No.9 of 2002)
- Wild Bird Protection Act Chapter 30 (Joint Regulation 13 of 1971)
- Wild Bird Protection Act 1989

### 3. Policies and Programs

- National Biodiversity Conservation Strategy
- National BioSafety Framework Project
- National Conservation Strategy
- National Waste Management Strategy
- Persistent Organic Pollutants.

## B. List of Key International Environmental Agreements Vanuatu is a signatory.

| Treaty/Agreement | Status | Year |
|---|---|---|
| Agreement on the International Dolphin Conservation Program | Ratified | 2003 |
| World Heritage Convention | Ratified | 2002 |
| Kyoto Protocol – greenhouse gas reductions | Acceded | 2001 |
| Millennium Development Goals | Adopted | 2000 |
| Plant Protection Agreement for South East Asia and the Pacific | Ratified | 1997 |
| Treaty on the Non-Proliferation of Nuclear Weapons | Ratified | 1995 |
| Montreal Protocol on Substances that Deplete the Ozone Layer | Acceded | 1994 |
| Vienna Convention for Protection of the Ozone Layer | Acceded | 1994 |
| United Nations Convention on Biological Diversity (CBD) | Ratified | 1993 |
| United Nations Framework Convention on Climate Change (UNFCCC) | Ratified | 1992 |
| Protocol of 1978 Relating to International Convention for Prevention of Pollution from Ships | Ratified | 1989 |
| Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) | Ratified | 1989 |
| International Convention on the Establishment of an International Fund for the Compensation for Oil Pollution Damage | Ratified | 1989 |
| International Convention on Civil Liability for Oil Pollution Damage | Ratified | 1983 |
| International Convention for the Prevention of Pollution of the Sea by Oil | Ratified | 1983 |
| United Nations Convention on the Law of the Sea (UNCLOS) | Ratified | 1982 |
| Convention on Wetlands of International Importance (Ramsar) | Not ratified | |

# APPENDIX 2 – CONTENTS OF ENVIRONMENTAL ASSESSMENT

## 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 and social assessment is carried out. It also identifies project-relevant international 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 cultural, 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 (including cultural characteristics) 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, socio-economic (including worker and community health and safety 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, trans-boundary, 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 impacts; the feasibility of mitigating these impacts; their capital and recurrent costs; their 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 and social performance. This should be based on traditional conflict resolution or custom processes as much as possible and form part of the GRM for the overall program as set out in the PSA and LARP.

## 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 (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 and social 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;
(c) identification of measures to strengthen environmental and social management capability: technical assistance programs, training programs, procurement of equipment and supplies related to environmental management and monitoring, and organizational changes; and
(d) estimates capital and recurrent costs and describes sources of funds for implementing the environmental and social 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, including whether any further and more detailed assessment is required, and provides recommendations.