

Semi-annual Report

March 2017

Civil Aviation Development Investment Program – Tranche 2

Prepared by National Airports Corporation for the Asian Development Bank.

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Project Environmental Monitoring Report

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PNG: Civil Aviation Development Investment Program – Tranche 2

Prepared by National Airports Corporation through the Government of Papua New Guinea for the Asian Development Bank.

Date: March 2017

ABBREVIATIONS

ADB	Asian Development Bank
ANEF	Australian Noise Exposure Forecast
CADIP	Civil Aviation Development Investment Program
CEPA	Conservation, Environmental Projection Authority
CHEC	China Harbour Engineering Corporation
COVEC	China Overseas Engineering Corporation
CTB	Cement Treated Base
EA	Executing Agency
EARF	Environment Assessment and Review Framework
EHPG	Eastern Highlands Provincial Government
EMP	Environment Management Plan
ER	Engineer Representative
FFA	Framework Financing Agreement
GoPNG	Government of Papua New Guinea
GRM	Grievance Redress Mechanism
HIV/AIDS	Human Immunodeficiency Virus /Acquired Immunodeficiency Syndrome
ICAO	International Civil Aviation Organization
IEE	Initial Environmental Examination
IES	International Environmental Specialist
NAC	National Airports Corporation
OHS	Occupational Health and Safety
PE	Project Environmentalist
PIU	Project Implementation Unit
PPE	Personal Protective Equipment
SPS	Safeguards Policy Statement

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1 INTRODUCTION

1.1 Background

1. The Government of the Independent State of Papua New Guinea (GoPNG) has requested the Asian Development Bank (ADB) to provide a Multi-Tranche Financing Facility (MFF) to facilitate the improvement of the current state of the country's domestic air transport system under the Civil Aviation Development Investment Program (CADIP).

2. CADIP is a comprehensive program to upgrade, rehabilitate and maintain 21 national domestic airports in Papua New Guinea (PNG). The executing agency (EA) for CADIP is the National Airports Corporation (NAC). NAC has established a Project Implementation Unit (PIU) to be its implementation agency in delivering the CADIP Tranches.

3. An essential component of the MFF arrangement for CADIP is the implementation of safeguard policy. There are three basic ADBs operational policies on safeguard: the Environment, Involuntary Resettlement and Indigenous People. All of these policies are embedded in ADB Safeguard Policy Statement (SPS) 2009. In addition, there is Environment Safeguard Good Practice Sourcebook Draft (2012). These safeguard policies seek to avoid, minimize or mitigate adverse environmental and social impacts, including protecting the rights of those likely to be affected by the development process. Implementing the provisions of the policies is the responsibility of the GoPNG through Project Implementation Unit (PIU) of CADIP in NAC.

4. This report covers the environmental aspect of the Safeguard Policy Statement (2009). It provides policies and procedures for preparation, implementation and monitoring of environmental safeguards such as; (i) environmental scoping and Initial Environmental Examination (IEE), (ii) Environmental Management Plan (EMP), (iii) Contractor' EMP Monitoring & Auditing, (iv) environmental clearances , (v) Impacts on people and natural surroundings, and also (vi) for compliance to the loan covenant for Environmental.

5. An Environmental Assessment Resettlement Framework (EARF) documented for CADIP is part of the provisions of the environmental safeguard. The EARF has been done and uploaded on ADB website in May 2013. It is done for the whole CADIP tranches.

6. This semi-annual report covering period from July to December 2016 that incorporates EMP implementation status from on-site meetings, contractors' reports, environmental audits and general environmental issues observation for the five airports in Tranche 2 identified for upgrading and rehabilitation namely Girua, Vanimo, Kundiawa, Goroka and Buka.

1.2 Project Brief

7. Main scope of works undertaken at Tranche 2 Projects is stated in the Table 1.0. Current progress of the works to date is also highlighted.

Table 1: COMPONENT OF TRANCHE 2 PROJECTS

No.	PROJECTS	MAIN SCOPE OF WORKS	CONTRACTOR	CURRENT STATUS
1	Girua Airport Pavement Upgrading, New Terminal Building & Associated Works	Strengthening of the runway pavement to cater for Q400 or similar aircraft type operations. Apron widening Apron widening to accommodate for 2 to 3 Q400 parking space New terminal building to cater for increasing passenger and cargo movements	China Harbour Engineering Corporation (CHEC)	<ul style="list-style-type: none"> ▪ Runway, Apron & Fencing Works is 100% completed ▪ New Terminal Building is 80% completed. Improvement to the non-conformances in progress
2	Vanimo Airport Pavement Upgrading & Associated Works	Strengthening of the runway pavement to cater for F100 or similar aircraft type operations. Apron widening Apron widening to cater for one F100 and Q400 parking space	Global Ltd	<ul style="list-style-type: none"> ▪ 90% completed overall ▪ Workers on-hold
3	Kundiawa Airport Pavement Upgrading & Associated Works	Strengthening of the runway pavement to handle Dash 100 or similar aircraft type.	Shorncliffe Ltd	<ul style="list-style-type: none"> ▪ 100% completed ▪ Outlet drainage restoration works in progress
4	Goroka Airport Aircraft Pavement Upgrade & Associated Works	Pavement strengthening and runway extension to cater for Fokker 100 or similar type aircrafts operations. Apron widening will cater for 2 to 3 Fokker 100 parking space New terminal building to cater for increasing passenger and cargo movements	China Overseas Engineering Corporation (COVEC)	<ul style="list-style-type: none"> ▪ 65% complete overall
5	Momote Airport Fencing Installation & Associated works	Supply and installation of palisade security fencing to protect the land side for safe aircraft operations	Kaulong Estate Ltd	<ul style="list-style-type: none"> ▪ 50% complete overall
6	Buka Airport Fencing Installation & Associated works	Supply and installation of palisade security fencing to protect the land side for safe aircraft operations	Kemele Construction Ltd	<ul style="list-style-type: none"> ▪ Contract award in progress

8. Civil works for the runway pavement upgrading for Girua, Vanimo, Goroka and Kundiawa airport is currently in progress. Fencing project for Momote is half-way complete whilst for Buka contract is in progress of award for contractor to mobilize to site by January 2017. Girua Pavement upgrade is fully completed except for the new Terminal Building which is expected to be complete by the first quarter of 2017. Vanimo Pavement upgrade is 90% complete. Kundiawa project is 100% completed with minor restoration works for the outlet flow drainage system. Goroka project is 65% complete in terms of overall works.

9. The three main safeguards components of the projects are:

- (i) Improvement of a safe & secured airports and airways infrastructure
- (ii) Program Management and Capacity Development
- (iii) Project Environmental Management Plan/Program

10. Part of the contract is the environmental management and monitoring to ensure that civil works carried out on construction site are environmentally friendly and within the allocated time assigned to be implemented. The key environmental impacts on natural and human environments on site have been assessed with mitigation measures presented in this report.

11. This report also incorporates local participation and Occupational Health and Safety (OHS) measures of the construction site, workers and workplace.

1.3 Environmental Category

12. Tranche 2 projects under CADIP still maintain the Environmental Category "B" according to ADB's Safeguard Policy Statement (2009). Its potential environmental impacts are less adverse and site specific, few if any of them are irreversible, and can be managed. As required, Initial Environmental Examination (IEE) for each project was documented.

13. The PNG Environmental Act 2000 and guidelines classified CADIP projects as; (i) Level 1 for all the fencing projects and (ii) Level 2A for the airport pavement and terminal upgrading works.

14. Level 1 project activities have the lowest impact on the surrounding environment. The requirements for submitting an IEE was waived and acceptance was granted from Conservation & Environmental Protection Agency (CEPA) to proceed with the fencing activities without further environmental assessment or clearance.

15. Level 2A is anticipated to cause potential adverse environmental impacts which are site-specific, few are if any of them are irreversible, and mitigation measures can be designed readily as part of the Environmental Management Plan (EMP) for each projects. This level involves earthworks, water abstraction, quarrying and waste discharge while doing upgrading & construction.

1.4 Environmental Performance Indicators

16. For qualitative and quantitative measurement of air and noise quality, general observation was carried out to determine their compliance with the EMPs.

1.5 Institutional Arrangement for Project Environmental Management

17. NAC through CADIP PIU is responsible for managing the construction contract including monitoring and the implementation of the contractors EMP.

18. As and when required, an International Environmental Specialist (IES) shall be engaged under CADIP on an intermittent basis to assist with:

- (i) Strengthening the environmental management of the project during detailed design, bidding process, contract process, construction, and implementation,
- (ii) Supervision and guidance of the environmental assessment process for all subprojects under the MFF,
- (iii) Supervision of the EMP implementation of subprojects, and
- (iv) Undertaking the necessary institutional strengthening including on-the-job training for the PE of NAC by giving major tasks to the PE in all of these activities.

19. The Project Environmentalist (PE) of PIU is responsible for monitoring the contractors' implementation of the EMP and to coordinate EMP implementation of the project.

20. An appointed contractor's representative to implement the EMP on-site is stationed at the project site throughout the duration of the project. The contractor reports to the Engineers Representative (ER) or the Project Engineer and the PE of PIU.

2 MONITORING ACTIVITIES

2.1 Methodologies

21. Environmental monitoring is carried out by the contractor, Project Engineer and ER of PIU with the assistance from the PE. Environmental audits are carried out on a quarterly basis by the PE. A weekly monitoring is conducted by the PIU Project Engineer and the contractors' environmental representative in coordination with the contractors' Project Management representative. Monitoring is performed continuously with EMP monitoring reporting done every month by the contractor and submitted to The Engineer and/or the ER of the Contract within first week of the new month.

22. A project specific environmental monitoring checklist has been prepared by the contractor with inputs from the PE. The checklist is used for daily/monthly monitoring as well as the audits which is carried out on a quarterly basis. The monitoring checklist for July to December 2016 for all Tranche 2 projects is summarized in Annex A.

23. It was emphasized during construction site meetings that monitoring is an integral part of the EMP implementation and must be reflected adequately in their monthly environmental monitoring report as well. EMP implementation monitoring for ongoing projects in Tranche 2 is presented in Annex B, C and D.

24. Site inspection and monitoring was carried out at the following areas:

- Contractors' site establishment & lay down area,
- Drainage works and Grave/water extraction area,
- Pavement works and building areas,
- Batching plant area,

- Workers compound,
- OHS for permanent workers,
- Nearby communities/settlements consultation, and
- Local participation

25. The contractors' environmental representative ensures all mitigating measures contained herein and thereafter is adhered to including necessary instructions from the Engineer whenever environmental impacts are observed and corrected.

3 WORKS IN PROGRESS

26. Tranche 2 projects works in progress during the period July to December 2016 is summarized in Table 2.

Table 2: SUMMARY OF THE PROGRESS OF ON-GOING TRANCHE 2 PROJECTS

Girua Airport Pavement Upgrading, New Terminal Building & Associated Works

The overall progress of work at Girua is 100% completed for runway pavement, apron, taxiway upgrading. A Contract Variation issued to the Contractor for the Extension of the security fencing to accommodate future extension of the runway to comply with ICAO requirements.

The construction of the New Terminal Building, Carpark and associated building facilities commenced in April 2016 and is approximately 80% completed to date. The Contractor has been issued non-conformance reports to carry out corrective action works and ensure that standards and specified requirements are complied with.

Vanimo Airport Pavement Upgrading & Associated Works

As of the date (26/8/2016) of stand down by the contractor due to non-payment of GoPNG component, Airside works done so far includes, general pavement repairs and strengthening, construction of 3m wide full strength shoulders to existing runway, widening of existing taxiway and apron, construction of half strength shoulders to apron & taxiway, existing drainage & culverts improvements and airfield lighting plus apron flood lights.

Of the total runway length of 1760m, 1520m of runway is complete. Of the total taxiway length of 100m, 80m is completed. Outstanding airside works also include PAPI installation and apron lighting installation.

Completed landside works includes supply & installation of security fence along the airport perimeter, construction of new Tractor Shed, construction of new NAC staff house, construction of new power house with associated works and the supply, delivery and installation of standby generators and wind indicators.

Outstanding works include minor drainage works along fence alignment, testing and commissioning of all installed electrical systems in power house and connection of fuel tank to generators.

Kundiawa Airport Pavement Upgrading & Associated Works

The overall progress of runway, taxiway and apron pavement upgrading, sealing works, line marking is 100% completed. Disposal of construction waste is done at the towns' designated dumping area. Fencing installation works is fully completed.

Works outside of airport still in progress is the restoration of the affected drainage outlet system about 200m downslope at the end of the runway ending at the Simbu River.

Goroka Airport Aircraft Pavement Upgrade & Associated Works

Strengthening and extending of the existing main runway with Cement Treated Base (CTB). Placing of next pavement payer with Base-course is in progress including drainage works and flight strip grading.

Airfield lighting works in progress with associated earthworks and installation underway.

Landside works for the new terminal building involves excavation works, foundation laying works, structural concrete walls for lower ground floor and structural steel frame. Design of the new control tower is in progress and construction is expected by to start by the first quarter of 2017.

Momote Airport Fencing Installation & Associated Works

Contractor has mobilized and established on site and commence clearing and grubbing of vegetation around the proposed fence-line perimeter.

Buka Airport Fencing Installation & Associated Works

No progress of works since contract award is still in progress and to be confirmed in the next monitoring reporting.

4. COMPLIANCE WITH ADB & NATIONAL ENVIRONMENTAL REQUIREMENTS

27. Compliance status with ADB and national / state / local statutory environmental regulatory requirements is shown in Table 3.0.

Table 3: COMPLIANCE STATUS FOR TRANCHE 2 PROJECTS.

NO.	PROJECT	STATUTORY ENVIRONMENTAL REQUIREMENTS	STATUS OF COMPLIANCE	ACTION REQUIRED
1	Girua Airport Pavement Upgrading, New Terminal Building & Associated Works	<ul style="list-style-type: none"> ▪ Environmental Permit ▪ EMP Implementation, Monitoring & Reporting ▪ EMP progress auditing ▪ EMP Audit Report 	<ul style="list-style-type: none"> ▪ Granted ▪ Yes (done by contractor on monthly basis) ▪ Yes (one done this 3rd quarter 2016) ▪ Yes (documented for 3rd quarter 2016) 	<ul style="list-style-type: none"> ▪ Follow up on the 3rd quarter audit report compliance for this 1st quarter 2017 audit
2	Vanimo Airport Pavement Upgrading & Associated Works	<ul style="list-style-type: none"> ▪ Environmental Permit ▪ EMP Implementation, Monitoring & Reporting ▪ EMP progress auditing ▪ EMP Audit Report 	<ul style="list-style-type: none"> ▪ Granted ▪ Yes (until the works 'stopped' in August 2016) ▪ No (due to 'stop work' by the contractor) ▪ No (due to 'stop work' by the contractor) 	<ul style="list-style-type: none"> ▪ NFA
3	Kundiawa Airport Pavement Upgrading & Associated Works	<ul style="list-style-type: none"> ▪ Environmental Permit ▪ EMP Implementation, Monitoring & Reporting ▪ EMP progress auditing ▪ EMP Audit Report 	<ul style="list-style-type: none"> ▪ Granted ▪ Yes (done by contractor on monthly basis) ▪ Yes (one done this 3rd quarter 2016) ▪ Yes (documented for 3rd quarter 2016) 	<ul style="list-style-type: none"> ▪ Follow up on the 3rd quarter audit report compliance for this 1st quarter 2017 audit
4	Goroka Airport Aircraft Pavement Upgrade, New Terminal Building & Associated Works	<ul style="list-style-type: none"> ▪ Environmental Permit ▪ EMP Implementation, Monitoring & Reporting ▪ EMP progress auditing ▪ EMP Audit Report 	<ul style="list-style-type: none"> ▪ Granted ▪ Yes (done by contractor on monthly basis) ▪ Yes (one done this 3rd quarter 2016) ▪ Yes (documented for 3rd quarter 2016) 	<ul style="list-style-type: none"> ▪ Follow up on the 3rd quarter audit report compliance for this 1st quarter 2017 audit
5	Momote Airport Fencing Installation & Associated works	<ul style="list-style-type: none"> ▪ Contractors site specific EMP documentation & submission to NAC ▪ Review of Contractors site specific EMP ▪ Approval of contractors site specific EMP ▪ EMP Implementation and Monitoring ▪ Consent for vegetation / food gardens / crops / assets clearance ▪ EMP progress auditing ▪ EMP Audit Report 	<ul style="list-style-type: none"> ▪ Yes ▪ Completed ▪ Yes (on the 4th of October 2016) ▪ Yes (done by contractor on monthly basis) ▪ Yes (payment done & clearance works completed) ▪ Yes (one done this 3rd quarter 2016) ▪ Yes (documented for 3rd quarter 2016) 	<ul style="list-style-type: none"> ▪ Follow up on the 3rd quarter audit report compliance for this 1st quarter 2017 audit

6	Buka Airport Fencing Installation & Associated works	<ul style="list-style-type: none">▪ Contractors site specific EMP documentation & submission to NAC▪ Review of Contractors site specific EMP▪ Approval of contractors site specific EMP▪ EMP Implementation and Monitoring▪ Construction EMP progress auditing and reporting▪ Consent for vegetation / food gardens / crops / assets clearance	<ul style="list-style-type: none">▪ Contract not award yet	<ul style="list-style-type: none">▪ NFA
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5. COMPLIANCE STATUS WITH EMP AS STIPULATED IN AGREEMENT WITH ADB

28. The status of compliance with environmental management and monitoring plan is stated in Table 4.

Table 4: PROJECT COMPLIANCE WITH ADB ENVIRONMENT REQUIREMENT

NO.	PROJECT	EMP PART OF CONTRACT DOCUMENT	EMP BEING IMPLEMENTED	STATUS OF EMP IMPLEMENTATION	MITIGATION MEASURE
		(Yes/No)	(Yes/No)	(Very Good /Satisfactory/Partially Satisfactory/Below Satisfaction)	
1	Girua Airport Pavement Upgrading, New Terminal Building & Associated Works	Yes	Yes	Satisfactory	No Further Action. Maintain compliance to EMP.
2	Vanimo Airport Pavement Upgrading, New Terminal Building & Associated Works	Yes	Yes	Satisfactory	No Further Action. Maintain compliance to EMP.
3	Kundiawa Airport Pavement Upgrading & Associated Works	Yes	Yes	Satisfactory	No Further Action. Maintain compliance to EMP.
4	Goroka Airport Aircraft Pavement Upgrade, New Terminal Building & Associated Works	Yes	Yes	Satisfactory	No Further Action. Maintain compliance to EMP.
5	Buka Airport Fencing Installation & Associated works	Yes	No	(Not yet)	-
6	Momote Airport Fencing Installation & Associated works	Yes	Yes	Very Good	No Further Action. Maintain compliance to EMP.

6. MONITORING RESULTS AND ACTIONS REQUIRED

29. EMP monitoring for Tranche 2 projects was based on the main areas of concern summarized in table 6.0 below. Main EMP concerns and mitigation measures applied during this period (July to December 2016) is shown in table 7.0 below. Monitoring for Momote commences this quarter except for Buka which will start next quarter once the contract is awarded and the contractor moves to site for establishment.

Table 5: SUMMARY OF THE MAIN AREAS OF EMP MONITORING UNDERTAKEN.

TRANCHE 2 PROJECTS					
	Girua Airport Pavement Upgrading, New Terminal Building & Associated Works	Vanimo Airport Pavement Upgrading & Associated Works	Kundiawa Airport Pavement Upgrading & Associated Works	Goroka Airport Aircraft Pavement Upgrade, New Terminal Building & Associated Works	Momote and Buka Airport Fencing Installation & Associated works
Batching Plant Area	<ul style="list-style-type: none"> ▪ Assembling of plant inside airport land on stable area ▪ Pre-checks and servicing is done to ensure proper maintenance and less excessive emissions. ▪ Concrete waste is collected and disposed off-site ▪ Cement storing and debugging is done under sheltered area to control waste and dust. ▪ Proper PPE and OHS is applied to personnel's working at Batch Plant area 	<ul style="list-style-type: none"> ▪ NA 	<ul style="list-style-type: none"> ▪ NA 	<ul style="list-style-type: none"> ▪ Pre-checks and servicing is done to ensure proper maintenance and less excessive emissions. ▪ Concrete waste is collected and disposed off-site ▪ Cement storing and debugging is done under sheltered area to control waste and dust. ▪ Proper PPE and OHS is applied to personnel's working at Batch Plant area 	<ul style="list-style-type: none"> ▪ NA

Crusher Plant Area

- Minimal production of gravels and stockpiling inside crusher compound as runway works completes. Minimal dust emission due to rain, water use in crushing and less production.
- Regular maintenance and controlled switching of generators to minimize noise nuisance and emission to nearby residences and communities.
- Construction workers wear proper PPEs.
- Proper waste management is maintained at satisfactory level.
- Less storage of crushed gravels and aggregate at contractors 'site.
- Construction workers wear proper PPEs.
- Regular maintenance and controlled switching to minimize nose nuisance and emission to nearby residences and communities.
- Proper waste management is maintained at satisfactory level.
- Crushing is done near Simbu River. Minimal dust emission due to rain, water use in crushing and less production
- Minimal production of gravels and stockpiling inside crusher compound as works near completion Routine maintenance to all machines on site to ensure there is no excessive leakage and exhaust emission which conforms to EMP standards.
- Construction workers wear proper PPEs.
- Regular maintenance and controlled switching to minimize nose nuisance and emission to nearby residences and communities.
- Maintain proper transportation of crushed materials to site from Kamalii River crusher site.
- NA
- Regular maintenance and controlled switching to minimize nose nuisance and emission to nearby residences and communities.
- Proper waste management is maintained at satisfactory level.

Camp Site Area	<ul style="list-style-type: none"> ▪ Hygiene and cleanliness is maintained at a satisfactory level. ▪ Noise is kept at the minimum through routine maintenance and turning off machines, plants, vehicles and equipment ▪ Most of the construction workers have proper PPEs. ▪ Proper waste management is maintained at satisfactory level. 	<ul style="list-style-type: none"> ▪ Hygiene and cleanliness is maintained at a satisfactory level. ▪ Proper waste management is maintained at satisfactory level. All wastes are properly stored in designated areas and removed to designated disposal areas ▪ Most of the construction workers have proper PPEs. 	<ul style="list-style-type: none"> ▪ Hygiene and cleanliness is maintained at a satisfactory ▪ Proper waste management is maintained at satisfactory level. ▪ Workshops and work places are kept clean and tidy. Oil spillage and proper storage of petrochemical products is emphasized. Any minor spillage must be cleaned immediately. ▪ Most of the construction workers have proper PPEs. 	<ul style="list-style-type: none"> ▪ Hygiene and cleanliness is maintained at a satisfactory ▪ Proper waste management is maintained at satisfactory level. ▪ PPEs, occupation health & safety policy/practice, and Environmental, Policy is in place. ▪ Most of the construction workers have proper PPEs. 	<ul style="list-style-type: none"> ▪ Mobilization and site establishment for Momote except Buka ▪ Clearing and grubbing for Momote camp site is properly done ▪ Waste is disposed off-site appropriately.
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Construction Site	<ul style="list-style-type: none"> ▪ Maintain compliance to EMP on the main runway pavement upgrading and associated works ▪ Maintain compliance to Contractors Policy on Health and Safety at Workplace ▪ Maintaining the dimension of the drains construction to contain runway surface runoffs ▪ Ensure that stripping of grass and top soil on the flight strip with controlled mitigation measures for dust, sedimentation and stockpiling. ▪ Stockpiling in controlled stable areas away from water bodies ▪ Controlled traffic flow away from restricted flight operations area ▪ PPEs were provided to workers 	<ul style="list-style-type: none"> ▪ Maintain compliance to EMP on the main runway pavement upgrading and associated works ▪ Maintain compliance to Contractors Policy on Health and Safety at Workplace ▪ PPEs were provided to workers ▪ Stockpiling in controlled stable areas away from water bodies ▪ Controlled traffic flow away from restricted flight operations area 	<ul style="list-style-type: none"> ▪ Maintain compliance to EMP on the main runway pavement upgrading and associated works ▪ All construction activities on site are strictly monitored to ensure the objectives of EMP are achieved. ▪ Maintain compliance to Contractors Policy on Health and Safety at Workplace ▪ Strict compliance to sedimentation controls at the outflow drainage restoration works 	<ul style="list-style-type: none"> ▪ Maintain compliance to EMP on the main runway pavement upgrading and associated works ▪ All construction activities on site are strictly monitored to ensure the objectives of EMP are achieved. ▪ Maintain compliance to contractors Policy on Health and Safety at Workplace ▪ Controlled traffic flow away from restricted flight operations area 	<ul style="list-style-type: none"> ▪ For Momote, proper waste management is maintained. Need to remove uprooted trees and stumps, branches remains ▪ Clearing and grubbing is along fence-line properly done ▪ NA (for Buka)
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Weather Impact on Project Progress	<ul style="list-style-type: none"> ▪ The overall weather pattern sunny and humid with moderate showers and cloud cover towards the afternoons. 	<ul style="list-style-type: none"> ▪ Generally clear and sunny during the day. Scattered clouds with frequent rainfall in the afternoons. 	<ul style="list-style-type: none"> ▪ Overall weather pattern was fine and dry with periodic heavy rainfall ▪ Scouring and drainage erosion at the outflow drainage system outside of the airport. Restoration works is in progress 	<ul style="list-style-type: none"> ▪ Fine during day time and cloudy to afternoon light to moderate showers. 	<ul style="list-style-type: none"> ▪ For Momote, it is hot and sunny with periodic rainfall.
Water Source (Ground/Surface)	<ul style="list-style-type: none"> ▪ Minimal usage of ground water bore system for drinking, cooking, toilet supplies and washing clothes. ▪ Water for dust control and use in civil works in construction is sourced from nearby Girua River. ▪ Water tank storage installed for use in the new terminal building 	<p>Maintain storage of water tank for drinking, cooking, toilet supplies and washing clothes. Cooking, toilet supplies and washing clothes.</p> <ul style="list-style-type: none"> ▪ Water for dust control and use in civil works in construction is sourced from nearby rivers. 	<ul style="list-style-type: none"> ▪ Controlled usage of water from the town water supply by connecting to the main supply for drinking, cooking, toilet supplies and washing clothes. ▪ Water for dust control and use in civil works in construction is sourced from nearby Simbu River. 	<ul style="list-style-type: none"> ▪ Controlled usage of water from the town water supply by connecting to the main supply for drinking, cooking, toilet supplies and washing clothes. ▪ Water for dust control and use in civil works in construction is sourced from nearby rivers. 	<ul style="list-style-type: none"> ▪ For Momote, water is sourced from nearby surface water.

NA = Not Applicable; EMP = Environmental Management Plan; PPE = Personal Protective Equipment

Table 6: SUMMARY OF EMP IMPLEMENTATED BY THE CONTRACTORS.

EMP CONCERN	MITIGATION MEASURES	Corrected (✓ / X)	Remarks
Vanimo Airport Pavement Upgrading & Associated Works			
EMP Monitoring & Reporting stopped	<ul style="list-style-type: none"> Awaits resumption of works once GoPNG Counterpart funding is available. 		
Girua Airport Pavement Upgrading, New Terminal Building & Associated Works			
Spoils	<ul style="list-style-type: none"> Levelling of low areas within the airport. 	✓	<ul style="list-style-type: none"> Satisfactory
Occupational Health & Safety	<ul style="list-style-type: none"> Maintain provision of proper provisions of PPEs to construction workers 	✓	<ul style="list-style-type: none"> Satisfactory
Spillage of petroleum products, hazardous and toxic materials on water (surface/ground) or ground	<ul style="list-style-type: none"> Bundling installed at construct concrete pad around vehicle maintenance and workshop area. 	✓	<ul style="list-style-type: none"> Satisfactory
Local Participation	<ul style="list-style-type: none"> Sourcing of laborers from locals must be maintained. Involvement of individual woman or in women groups must be considered. 	✓	<ul style="list-style-type: none"> Above Satisfactory 14 – 26 locals employed between July to December 2016. Currently the contractor has maintained at 23 locals. From 6 local women employed, only 2 are retained as admin support officers.
Kundiawa Airport Pavement Upgrading & Associated Works			
Spoils	<ul style="list-style-type: none"> Used for landfilling and/or proper disposal Levelling of low areas within the airport. Correct disposal of excess spoils at public dump site or given to communities for their use. 	✓	<ul style="list-style-type: none"> Satisfactory Distributed to nearby schools and health center to backfill low areas within their premises.
Spillage of petroleum products, hazardous and toxic materials on water (surface/ground) or ground	<ul style="list-style-type: none"> Ensure spill kits are readily available on site and use to contain spillage. Proper and well maintained storage area for petroleum products, hazardous and toxic materials storage area. Used oil must be stored in sealed containers Supply rages to wipe out/clean small amount of oil spills immediately. 	✓	<ul style="list-style-type: none"> Satisfactory
Occupational Health & Safety	<ul style="list-style-type: none"> Maintain proper provisions of PPE to construction workers Provision of wash-down area for trucks, cars 	✓	<ul style="list-style-type: none"> Satisfactory
Dust control	<ul style="list-style-type: none"> Use water trucks to sprinkle exposed soil areas to control dust pollution to the nearby surrounding communities, houses, roads and buildings. 	✓	<ul style="list-style-type: none"> Satisfactory
Local Participation	<ul style="list-style-type: none"> Sourcing of laborers from locals must be maintained. Involvement of women or women groups must be considered. 	✓	<ul style="list-style-type: none"> Satisfactory 56 locals employed from semiskilled to skilled works 2 local groups were engaged. Group 1 has 7 locals

			(2 men & 5 women); Group 2 has 10 locals (5 men & 5 women) involved in general cleaning, grass cutting and cleaning along the fence-line, weeding of drains. • 1 woman group of 20 members involve in grass planting inside the flight strip area.
Sedimentation/erosion	<ul style="list-style-type: none"> • Construction of the outlet drainage during dry weather. • Install sedimentation controls 		Controls to be designed and restoration plans to be implemented
Goroka Airport Pavement Upgrading, New Terminal Building & Associated Works			
Spoils	<ul style="list-style-type: none"> • Used for landfilling and/or proper disposal • Stockpiling away from drains and water bodies • Levelling of low areas within the airport. 	✓	• Satisfactory
Spillage of petroleum products, hazardous and toxic materials on water (surface/ground) or ground	<ul style="list-style-type: none"> • Ensure spill kits are readily available on site and use to contain spillage. • Proper and well maintained storage area for petroleum products, hazardous and toxic materials storage area. • Used oil must be stored in sealed containers • Supply rages to wipe out/clean small amount of oil spills immediately. 	✓	• Satisfactory
Occupational Health & Safety	<ul style="list-style-type: none"> • Maintain proper provisions of PPEs to construction workers • Provision of wash-down area for trucks, cars 	✓	• Satisfactory for PPEs. Maintain provision of proper PPEs to construction workers
Dust control	<ul style="list-style-type: none"> • Use of water to minimize dust emission to surrounding communities, houses, roads and buildings. 	✓	•
Local Participation	<ul style="list-style-type: none"> • Sourcing of laborers from locals must be maintained. • Involvement of women or women groups must be considered. 	✓	<ul style="list-style-type: none"> • Satisfactory • From 3 local women, only 2 are retained to do laundries, general cleaning of office, kitchen and assist in cooking. • 64 locals employed from semi-skilled to skilled profession

30. EMP Implementation and mitigation measures on Tranche 2 projects construction site were satisfactory accept contractors need to maintain provisions of proper Personal Protective Equipment (PPEs). Again there were no reports of major environmental impacts. Corrective measures noted during the second quarter of 2016 environmental audit were undertaken by the contractors. Timely and effective implementation of contractors' conformance to EMP implementation will be applied and maintained.

31. General local participation has increased under the Tranche 2 projects. More locals are being employed as permanent and casual laborers as construction works come its primary phase. Total of about 233 locals were employed from July 2016 to December 2016 on all Tranche 2 projects except for Vanimo with its workers scaled down completely due to stop works. Gender mainstreaming includes women participation in the project implementation has improved as compared to the first tranche. From (18) local women reported in the previous tranche as according to the 1st semi-annual report, it has gone up to 46 currently employed to work in areas such as office admin support, kitchen assistant, general laborers and cleaners.

32. Disposal of domestic waste from contractors' site is managed through the normal town disposal facilities. Littering and waste petrochemical products such as lubricants, chemicals, asphalts and fuel (diesel/petrol) were stored in sealed drums/containers. Waste management is in place and implemented.

33. Restoration works in the outflow drainage system at Kundiawa airport is in progress to mitigate the erosion impact downslope at one end of the runway. Sedimentation controls is in place, work is done only during sunny season and strict EMP compliance by the contractor.

7.1 Environmental Quality Monitoring Results

34. Dust is minimized using the water truck during sunny days.

35. The contractor is advised to carry out water quality test once every quarter or semi-annually. Water quality checks is done mainly on discharge areas into nearby water bodies and also from groundwater that is extracted for use by the contractor.

36. Measurement for the air and noise quality cannot be done due to the unavailability of monitoring equipment on-site to measure and quantify data. However, machines/plants/equipment and trucks used for construction works are regularly serviced and undergo complete service upon required mileage. This ensures harmful gas emissions generated from the engines are minimized or controlled at low acceptable levels.

8. ENVIRONMENTAL MANAGEMENT GRIEVANCE REDRESS MECHANISM

37. Grievances associated with project related environmental management and implementation issues were not too significant for all projects in Tranche 2. Most of the grievances reported were manageable by the contractor through strict implementation of the EMP. Anticipated issues that seem insurmountable shall be discussed and addressed through the office of the Provincial Administration with its' established committee including the contractor and CADIP PIU of NAC. This is the Grievance Redress Mechanism (GRM).

Table 7: ENVIRONMENTAL ISSUES AND COMPLAINTS ADDRESSED THROUGH GRM

AIRPORT PROJECT	ITEM	DESCRIPTION		
Girua Airport Pavement Upgrading, New Terminal Building & Associated Works	1	Issue	Proper waste management at terminal building area	
		Proposed Action(s)	<ul style="list-style-type: none"> ▪ Allocate a designated waste dumping area away from the main works area ▪ Engage locals to do general cleaning at the end of every week 	
		Follow-up Issues/Actions	<ul style="list-style-type: none"> ▪ Follow up on waste disposal allocation area 	
		Final Resolution	<ul style="list-style-type: none"> ▪ Satisfactory ▪ Construction waste are appropriately collected and disposed at the end of each week by the contractor 	
	2	Issue	Improper market shed for local men and women folks	
		Proposed Action(s)	Construct proper market place	
		Follow-up Issues/Actions	Proper market shed constructed and completed including toilet facilities.	
		Final Resolution	Satisfactory	
Vanimo Airport Pavement Upgrading & Associated Works	1	Issue	<ul style="list-style-type: none"> ▪ Nearby locals' complaints of dust pollution along the coronus unpaved road towards camp site. 	
		Proposed Action(s)	<ul style="list-style-type: none"> ▪ Apply water spray frequently 	
	2	Follow-up Issues/Actions	<ul style="list-style-type: none"> ▪ Periodic water spray is done during sun times and visibility of dust emission ▪ Drivers advised to slow down along that section of the dusty road during contractor's safety tool-kit meeting. 	
		Final Resolution	<ul style="list-style-type: none"> ▪ Satisfactory ▪ Continued periodic water spray 	
		1	Issue	Outflow drainage restoration works to control increase velocity runoff effect of soil and vegetation erosion downslope from one end of the runway
			Proposed Action(s)	<ul style="list-style-type: none"> ▪ Install sediment or erosion controls during drainage restoration works ▪ Backfill and compact the inside line drain completely. ▪ Do a re-design and request for additional funding to carry out remedial works
Follow-up Issues/Actions	Monitor the drainage restoration works			
Final Resolution	Satisfactory Drainage restoration works in progress			
Issue	Locals affected by overflow of drains outside of the airport raised concerns of the impacts to their			

			properties and gardens
	2	Proposed Action(s)	<ul style="list-style-type: none"> ▪ Compensation in the form of ex-gratia and employment in general labor for the drainage restoration works.
		Follow-up Issues/Actions	<ul style="list-style-type: none"> ▪ CADIP Environmentalist to follow-up and report on outcome ▪ Contractor to implement
		Final Resolution	<ul style="list-style-type: none"> ▪ Satisfactory ▪ Given priority in employment for the drainage restoration works
Goroka Airport Pavement Upgrading, New Terminal Building & Associated Works	1	Issue	Unauthorized occupancy of declared aerodrome land by an individual
		Proposed Action(s)	<ul style="list-style-type: none"> ▪ NAC, Eastern Highlands Provincial Government (EHPG) and Department of Lands & Physical Planning (DLPP) to resolve the issue. ▪ DLPP Secretary has formally informed the occupant to allow for the fencing works to proceed whilst their concerns to be dealt with DLPP and EHPG accordingly.
		Follow-up Issues/Actions	CADIP Environmentalist to follow-up and report on outcome
		Final Resolution	<ul style="list-style-type: none"> ▪ Letter from DLPP Secretary delivered to the unauthorized occupant on the 24/6/2016 ▪ DLPP has resorted to compulsory acquisition ▪ Deed of Release for the compulsory acquisition made on the 29/11/2016 ▪ Fence-line clearing & grubbing works commence in January 2017. ▪ Notify the Eastern Highlands Provincial Administration

9. SUMMARY AND CONCLUSIONS

38. Generally works on all sites – campsite, construction site, crusher site and batch plant site is satisfactory in compliance with the implementation of the inspection items checklist as per the approved EMP or Contractors EMP.

39. There is periodic implementation of the Occupational Health and Safety awareness not only to the construction workers but also to surrounding communities and public at large. This also includes HIV/AIDS awareness.

40. More local women were recruited in areas appropriate for them under the project.

41. Another audit will be done on the Contractor's Environmental Compliance performance towards the end of first quarter.

42. For this reporting period ending 2016, the environmental monitoring of all projects in Tranche 2 has indicated that there is significant or major environmental impacts.

ANNEX A: MONITORING EMP CHECKLIST FOR TRANCHE 2 PROJECTS

Item/Impact	Action/Mitigation Measure	Mitigation Implementation		Impacts Observed/Location	Action Required (incl. by date)	Contractor Response/Comment
		Yes/No	Effectiveness (1 to 5)			
Contractor environmental / HIV AIDS awareness	<ul style="list-style-type: none"> Aware of EMP mitigation measures and effective implementation Delivering training and/or awareness to staff/nearby communities 	Yes	4	Batching Plant Crusher Plant Campsite	No action required	Refer to Annex E,F,G and H for detail checklist and/or EMP reporting
EMP Implementation	<ul style="list-style-type: none"> Strict implementation is to be done The designated officers functions and responsibilities to be carried out 	Yes	4	All sites of the project	No action required	Refer to Annex E,F,G and H for detail checklist and/or EMP reporting
Maintenance Works and Construction Methods	<ul style="list-style-type: none"> On-going project sites has been properly implemented 	Yes	4	All sites of the project	No action required	Refer to Annex E,F,G and H for detail checklist and/or EMP reporting
Site Conditions	<ul style="list-style-type: none"> Local community issues on lands and employment were properly addressed and resolved. 	Yes	4	all site	No further action required	Refer to Annex E,F,G and H for detail checklist and/or EMP reporting
Environment Management Measures	<ul style="list-style-type: none"> Environmental issues as tabulated in the EMP will be properly implemented and mitigated as to the probable impact. 	Yes	4	All sites of the project	Environmental and Project Engineer to take control the implementation	Refer to Annex E,F,G and H for detail checklist and/or EMP reporting

Effectiveness rating; 1 = non-compliant - corrective actions required; 2 = partial compliance – corrective or alternative actions required; 3 = adequately implementing CEMP measures; 4 = more than adequately implementing CEMP measures; 5 = excellent compliance, incl. measures in addition to CEMP

ANNEX B: EMP IMPLEMENTATION – GIRUA AIRPORT

PROJECT NAME:	GIRUA AIRPORT PAVEMENT UPGRADING, NEW TERMINAL BUILDING & ASSOCIATED WORKS	CONTRACT NO:		PROVINCE:	ORO PROVINCE
Date of Inspection:	December 2016	Inspected By (And Designation):	Barksy (PIU)	Initial:	BP
Remarks:	Satisfactory	Witnessed By (And Designation):	Project Engineer(s)	Initial:	Moses Arie (MA)
			Contractor (CHEC)	Initial:	

ENVIRONMENTAL ISSUE	MITIGATION MEASURES	LOCATIONS	TIMEFRAME	COMPLIED		REMARKS	DATE TO UNDERTAKE REMEDIAL ACTIONS STATED IN REMARKS.
				YES	NO		
SOIL EROSION							
Slope erosion and sedimentation of nearby water bodies	<ul style="list-style-type: none"> Installation of silt traps on all drains Minimize clearing of vegetation and time surfaces are exposed Establish requisite temporary/permanent control structures Undertake immediate re-vegetation after completion of construction works 	Airport vicinities	Construction Phase	✓		<ul style="list-style-type: none"> - Regressing taking shape covering earthworks areas - Landscaping and flower planting around new terminal building area 	<ul style="list-style-type: none"> - Completed - To monitor and audit during 1st quarter audit of 2017
Sediment runoff which could damage aquatic and marine ecology or flooding issues	<ul style="list-style-type: none"> Locate stockpiles in controlled areas Sub-grade and sub-base material placed quickly after removal of topsoil Planned construction work during dry season Removal of spoils and construction debris 	Downstream of Airport sites and waterways	Construction Phase	✓		<ul style="list-style-type: none"> - No works during rainy season 	<ul style="list-style-type: none"> - To monitor and audit during 1st quarter audit of 2017
WATER QUALITY/QUANTITY							
Disruption of Surface and Ground Water	<ul style="list-style-type: none"> Dimension of drains Diversion of stream Use of grassed areas for runoff Location of stockpiles on paved areas Removal of stockpiles after construction Re-vegetation after construction 	Airport and surrounding areas and Downstream from construction areas	Duration of project	✓			<ul style="list-style-type: none"> - To monitor and audit during 1st quarter audit of 2017
Contamination of nearby water bodies by toxic and hazardous substances	<ul style="list-style-type: none"> Installation of oil and traps in drains Development of safe storage areas and proper handling of hazardous and toxic materials Proper disposition of hazardous and toxic materials 	Airport and surrounding areas	Duration of project	✓			<ul style="list-style-type: none"> - To monitor and audit during 1st quarter audit of 2017
Pollution from domestic sewage and wastes	<ul style="list-style-type: none"> Proper solid waste management system to be practiced in work areas Installation of sanitation and treatment facilities in camps, offices and ancillary facilities 	Airport, Camps, Offices and Ancillary Facilities	Duration of project	✓			<ul style="list-style-type: none"> - To monitor and audit during 1st quarter audit of 2017

ENVIRONMENTAL ISSUE	MITIGATION MEASURES	LOCATIONS	TIMEFRAME	COMPLIED		REMARKS	DATE TO UNDERTAKE REMEDIAL ACTIONS STATED IN REMARKS.
				YES	NO		
Contamination from oil and grease	<ul style="list-style-type: none"> Collect and recycle petroleum products Development of spill contingency plans Construction of bund walls and drainage systems around fuel storage areas 	Ancillary Facilities	Duration of project	✓		- Immediate clean-up plan for spills	<ul style="list-style-type: none"> December 2016 To monitor and audit during 1st quarter audit of 2017
AIR POLLUTION							
Increase in levels of Total Suspended Particulates (TSP), SO ₂ and NO ₂	<ul style="list-style-type: none"> Locate Ancillary Facilities away from residential and settlement areas Provide workers with Personal Protective Equipment (PPE) Proper maintenance of vehicles, machineries and equipment 	Airport site and adjacent villages and settlements	Pre-Construction and Construction Phase	✓			<ul style="list-style-type: none"> To monitor and audit during 1st quarter audit of 2017
Health hazards and nuisances to nearby villages and settlements	<ul style="list-style-type: none"> Regular monitoring of air quality in the vicinity of the airports and sensitive receptors 	Airport site and adjacent villages and settlements	Operation Phase	✓		- Require environmental monitoring equipment to quantify. However, visual assessment indicated fewer nuisances tolerable to nearby settlement.	<ul style="list-style-type: none"> December 2016 To monitor and audit during 1st quarter audit of 2017
NOISE POLLUTION							
Health risks to workers and residents of nearby villages and communities	<ul style="list-style-type: none"> Control vehicles speed in work areas and sensitive locations Locate Ancillary Facilities away from residential and settlement areas Provide workers with Personal Protective Equipment (PPE) Proper maintenance of vehicles, machineries and equipment 	All construction areas, access routes, and quarry sites	Pre-Construction and Construction Phase	✓		- Proper and routine maintenance of machines and vehicles are done	<ul style="list-style-type: none"> December 2016 To monitor and audit during 1st quarter audit of 2017
Nuisance to residents of nearby villages and communities	<ul style="list-style-type: none"> Establishment of buffers between airport and nearby settlement areas Preparation of operational procedures by Airport Operator based on ANZECC 1992 or Australian Noise Exposure Forecast (ANEF) 	Nearby settlements	Operation Phase	✓			<ul style="list-style-type: none"> To monitor and audit during 1st quarter audit of 2017
OCCUPATIONAL HEALTH AND SAFETY							
Hazards to worker's health and safety	<ul style="list-style-type: none"> Construction methodology under control of Safety Officer and CSC Approved Contractor's Occupational Health and Safety Plan 	Airport sites	Pre-Construction and Construction Phase	✓		- All workers to attend Health and safety toolkit meeting	<ul style="list-style-type: none"> To monitor and audit during 1st quarter audit of 2017
Spread of HIV and other communicable diseases	<ul style="list-style-type: none"> Contractor to source laborers and workers from the nearby villages Contractors to increase awareness of workers 	Airport site and adjacent villages and settlements	Pre-Construction and Construction Phase	✓			
SOCIAL /COMMUNITY CONCERNS							
Changes in nearby land values	<ul style="list-style-type: none"> Proper valuation of land 	Surrounding areas and nearby villages	Operation phase		✓	- Not required	

ENVIRONMENTAL ISSUE	MITIGATION MEASURES	LOCATIONS	TIMEFRAME	COMPLIED		REMARKS	DATE TO UNDERTAKE REMEDIAL ACTIONS STATED IN REMARKS.
				YES	NO		
Loss of aesthetics	<ul style="list-style-type: none"> Landscaping and re-vegetation 	Vicinity of Airports	Duration of Project	✓		- Ensure no impact to nearby aesthetics	- To monitor and audit during 1 st quarter audit of 2017
Cultural differences risk/social conflicts	<ul style="list-style-type: none"> Contractor to source laborers and workers from the nearby villages 	Airport site and adjacent villages and settlements	Pre-Construction and Construction Phase	✓		- Well implemented	- To monitor and audit during 1 st quarter audit of 2017
Slum creation risks	<ul style="list-style-type: none"> Demolition of structures as part of abandonment plan 	Airport sites	Completion of Construction	✓		- Not applicable (NA) at this construction stage for the new terminal building	
Disruption of utilities	<ul style="list-style-type: none"> Investigate limits to required services and minimize disruptions 	Nearby settlements	Pre-Construction and Construction Phase	✓		- No disruption to utilities. Contractors are made aware of the public utilities	- Monitor daily by Project Safety Officer
Increase in traffic	<ul style="list-style-type: none"> Prepare traffic management plans 	Airport vicinities and major roads into the Airports	Duration of Project	✓		<ul style="list-style-type: none"> Maintain movement of cars/machinery into airside aided by NAC Safety Officer Landside traffic is on normal road networks accept when needed guidance from NAC Safety Officer. 	- Monitor daily by Project Safety Officer
SITE ABANDONMENT							
Decommissioning of work sites	<ul style="list-style-type: none"> Preparation of abandonment plan Return of all transient workers to original places of residences Demolition of temporary offices and contractor's depot area Dismantling of ancillary facilities Re-vegetation of exposed areas Proper disposition of construction debris 	Construction and camp sites	After completion of construction	✓		<ul style="list-style-type: none"> NA at this construction stage. Contractor is required to prepare a Site Abandonment Plan 	- To monitor and audit during 1 st quarter audit of 2017

ANNEX C: EMP IMPLEMENTATION – VANIMO AIRPORT

PROJECT NAME:	VANIMO AIRPORT PAVEMENT UPGRADING, NEW TERMINAL BUILDING & ASSOCIATED WORK	CONTRACT No:		PROVINCE:	SANDAUN PROVINCE
Date of Inspection:	December 2016	Inspected By (And Designation):	Barksy (PIU)	Initial:	BP
Remarks:	Satisfactory	Witnessed By (And Designation):	Project Engineer(s)	Initial:	Michael Tolimanaram (MT)
			Contractors' Environmental Rep.	Initial	

ENVIRONMENTAL ISSUE	MITIGATION MEASURES	LOCATIONS	TIMEFRAME	COMPLIED		REMARKS	DATE TO UNDERTAKE REMEDIAL ACTIONS STATED IN REMARKS.
				YES	NO		
SOIL EROSION							
Slope erosion and sedimentation of nearby water bodies	<ul style="list-style-type: none"> Installation of silt traps on all drains Minimize clearing of vegetation and time surfaces are exposed Establish requisite temporary/permanent control structures Undertake immediate re-vegetation after completion of construction works 	Airport vicinities	Construction Phase				
Sediment runoff which could damage aquatic and marine ecology or flooding issues	<ul style="list-style-type: none"> Locate stockpiles in controlled areas Sub-grade and sub-base material placed quickly after removal of topsoil Planned construction work during dry season Removal of spoils and construction debris 	Downstream of Airport sites and waterways	Construction Phase				
WATER QUALITY/QUANTITY							
Disruption of Surface and Ground Water	<ul style="list-style-type: none"> Dimension of drains Diversion of stream Use of grassed areas for runoff Location of stockpiles on paved areas Removal of stockpiles after construction Re-vegetation after construction 	Airport and surrounding areas and Downstream from construction areas	Duration of project				
Contamination of nearby water bodies by toxic and hazardous substances	<ul style="list-style-type: none"> Installation of oil and traps in drains Development of safe storage areas and proper handling of hazardous and toxic materials Proper disposition of hazardous and toxic materials 	Airport and surrounding areas	Duration of project				

WORKS STOPPED IN AUGUST 2016

ENVIRONMENTAL ISSUE	MITIGATION MEASURES	LOCATIONS	TIMEFRAME	COMPLIED		REMARKS	DATE TO UNDERTAKE REMEDIAL ACTIONS STATED IN REMARKS.
				YES	NO		
Pollution from domestic sewage and wastes	<ul style="list-style-type: none"> Proper solid waste management system to be practiced in work areas Installation of sanitation and treatment facilities in camps, offices and ancillary facilities 	Airport, Camps, Offices and Ancillary Facilities	Duration of project				
Contamination from oil and grease	<ul style="list-style-type: none"> Collect and recycle petroleum products Development of spill contingency plans Construction of bund walls and drainage systems around fuel storage areas 	Ancillary Facilities	Duration of project				
AIR POLLUTION							
Increase in levels of Total Suspended Particulates (TSP), SO2 and NO2	<ul style="list-style-type: none"> Locate Ancillary Facilities away from residential and settlement areas Provide workers with Personal Protective Equipment (PPE) Proper maintenance of vehicles, machineries and equipment 	Airport site and adjacent villages and settlements	Pre-Construction and Construction Phase				
Health hazards and nuisances to nearby villages and settlements	<ul style="list-style-type: none"> Regular monitoring of air quality in the vicinity of the airports and sensitive receptors 	Airport site and adjacent villages and settlements	Operation Phase				
NOISE POLLUTION							
Health risks to workers and residents of nearby villages and communities	<ul style="list-style-type: none"> Control vehicles speed in work areas and sensitive locations Locate Ancillary Facilities away from residential and settlement areas Provide workers with Personal Protective Equipment (PPE) Proper maintenance of vehicles, machineries and equipment 	All construction areas, access routes, and quarry sites	Pre-Construction and Construction Phase				
Nuisance to residents of nearby villages and communities	<ul style="list-style-type: none"> Establishment of buffers between airport and nearby settlement areas Preparation of operational procedures by Airport Operator based on ANZECC 1992 or Australian Noise Exposure Forecast (ANEF) 	Nearby settlements	Operation Phase				
OCCUPATIONAL HEALTH AND SAFETY							
Hazards to worker's health and safety	<ul style="list-style-type: none"> Construction methodology under control of Safety Officer and CSC Approved Contractor's Occupational Health and Safety Plan 	Airport sites	Pre-Construction and Construction Phase				

WORKS STOPPED IN AUGUST 2016

ENVIRONMENTAL ISSUE	MITIGATION MEASURES	LOCATIONS	TIMEFRAME	COMPLIED		REMARKS	DATE TO UNDERTAKE REMEDIAL ACTIONS STATED IN REMARKS.
				YES	NO		
Spread of HIV and other communicable diseases	<ul style="list-style-type: none"> Contractor to source labourers and workers from the nearby villages Contractors to increase awareness of workers 	Airport site and adjacent villages and settlements	Pre-Construction and Construction Phase			-	
SOCIAL /COMMUNITY CONCERNS							
Changes in nearby land values	<ul style="list-style-type: none"> Proper valuation of land 	Surrounding areas and nearby villages	Operation phase				
Loss of aesthetics	<ul style="list-style-type: none"> Landscaping and re-vegetation 	Vicinity of Airports	Duration of Project			-	
Cultural differences risk/social conflicts	<ul style="list-style-type: none"> Contractor to source labourers and workers from the nearby villages 	Airport site and adjacent villages and settlements	Pre-Construction and Construction Phase				
Slum creation risks	<ul style="list-style-type: none"> Demolition of structures as part of abandonment plan 	Airport sites	Completion of Construction				
Disruption of utilities	<ul style="list-style-type: none"> Investigate limits to required services and minimize disruptions 	Nearby settlements	Pre-Construction and Construction Phase				
Increase in traffic	<ul style="list-style-type: none"> Prepare traffic management plans 	Airport vicinities and major roads into the Airports	Duration of Project			-	
SITE ABANDONMENT							
Decommissioning of work sites	<ul style="list-style-type: none"> Preparation of abandonment plan Return of all transient workers to original places of residences Demolition of temporary offices and contractor's depot area Dismantling of ancillary facilities Re-vegetation of exposed areas Proper disposition of construction debris 	Construction and camp sites	After completion of construction				

WORKS STOPPED IN AUGUST 2016

ANNEX D: EMP IMPLEMENTATION – KUNDIAWA AIRPORT

PROJECT NAME:	KUNDIAWA AIRPORT PAVEMENT UPGRADING & ASSOCIATED WORKS	CONTRACT NO:		PROVINCE:	CHIMBU PROVINCE
Date of Inspection:	June 2016	Inspected By (And Designation):	Barksy (PIU)	Initial	BP
Remarks:	Satisfactory	Witnessed By (And Designation):	Project Engineer(s)	Initial	SR/KD/AD
			Contractors Rep.	Initial	

ENVIRONMENTAL ISSUE	MITIGATION MEASURES	LOCATIONS	TIMEFRAME	COMPLIED		REMARKS	DATE TO UNDERTAKE REMEDIAL ACTIONS STATED IN REMARKS.
				YES	NO		
SOIL EROSION							
Slope erosion and sedimentation of nearby water bodies	<ul style="list-style-type: none"> Installation of silt traps on all drains Minimize clearing of vegetation and time surfaces are exposed Establish requisite temporary/permanent control structures Undertake immediate re-vegetation after completion of construction works 	Airport vicinities	Construction Phase	✓		- Re-grassing taking place on earthworks area	- To monitor and audit during 1 st quarter audit of 2017
Sediment runoff which could damage aquatic and marine ecology or flooding issues	<ul style="list-style-type: none"> Locate stockpiles in controlled areas Sub-grade and sub-base material placed quickly after removal of topsoil Planned construction work during dry season Removal of spoils and construction debris 	Downstream of Airport sites and waterways	Construction Phase	✓			- To monitor and audit during 1 st quarter audit of 2017
WATER QUALITY/QUANTITY							
Disruption of Surface and Ground Water	<ul style="list-style-type: none"> Dimension of drains Diversion of stream Use of grassed areas for runoff Location of stockpiles on paved areas Removal of stockpiles after construction Re-vegetation after construction 	Airport and surrounding areas and Downstream from construction areas	Duration of project	✓		- Sedimentation control in place. Drainage flow designs in progress to control flooding and erosion of drains outside of airport.	- March 2017 - To monitor and audit during 1 st quarter audit of 2017

ENVIRONMENTAL ISSUE	MITIGATION MEASURES	LOCATIONS	TIMEFRAME	COMPLIED		REMARKS	DATE TO UNDERTAKE REMEDIAL ACTIONS STATED IN REMARKS.
				YES	NO		
Contamination of nearby water bodies by toxic and hazardous substances	<ul style="list-style-type: none"> Installation of oil and traps in drains Development of safe storage areas and proper handling of hazardous and toxic materials Proper disposition of hazardous and toxic materials 	Airport and surrounding areas	Duration of project	✓			- To monitor and audit during 1 st quarter audit of 2017
Pollution from domestic sewage and wastes	<ul style="list-style-type: none"> Proper solid waste management system to be practiced in work areas Installation of sanitation and treatment facilities in camps, offices and ancillary facilities 	Airport, Camps, Offices and Ancillary Facilities	Duration of project	✓			- To monitor and audit during 1 st quarter audit of 2017
Contamination from oil and grease	<ul style="list-style-type: none"> Collect and recycle petroleum products Development of spill contingency plans Construction of bund walls and drainage systems around fuel storage areas 	Ancillary Facilities	Duration of project	✓			- To monitor and audit during 1 st quarter audit of 2017
AIR POLLUTION							
Increase in levels of Total Suspended Particulates (TSP), SO2 and NO2	<ul style="list-style-type: none"> Locate Ancillary Facilities away from residential and settlement areas Provide workers with Personal Protective Equipment (PPE) Proper maintenance of vehicles, machineries and equipment 	Airport site and adjacent villages and settlements	Pre-Construction and Construction Phase	✓		- Vehicles and machineries are maintained at contactors workshop.	- To monitor and audit during 1 st quarter audit of 2017
Health hazards and nuisances to nearby villages and settlements	<ul style="list-style-type: none"> Regular monitoring of air quality in the vicinity of the airports and sensitive receptors 	Airport site and adjacent villages and settlements	Operation Phase	✓		- Require environmental monitoring equipment to quantify. However, visual assessment indicated fewer nuisances tolerable to nearby settlement.	- To monitor and audit during 1 st quarter audit of 2017
NOISE POLLUTION							
Health risks to workers and residents of nearby villages and communities	<ul style="list-style-type: none"> Control vehicles speed in work areas and sensitive locations Locate Ancillary Facilities away from residential and settlement areas Provide workers with Personal Protective Equipment (PPE) Proper maintenance of vehicles, machineries and equipment 	All construction areas, access routes, and quarry sites	Pre-Construction and Construction Phase	✓			- To monitor and audit during 1 st quarter audit of 2017
Nuisance to residents of nearby villages and communities	<ul style="list-style-type: none"> Establishment of buffers between airport and nearby settlement areas Preparation of operational procedures by Airport Operator based on ANZECC 1992 or Australian Noise Exposure Forecast (ANEF) 	Nearby settlements	Operation Phase	✓		<ul style="list-style-type: none"> Contractors' vehicle and machineries Traffic is controlled and management strictly within airport are and main/access roads. Limit use of vehicles, machines, crusher plant is done only during day time 	- Monitored daily by CADIP NAC Safety officer
OCCUPATIONAL HEALTH AND SAFETY							

ENVIRONMENTAL ISSUE	MITIGATION MEASURES	LOCATIONS	TIMEFRAME	COMPLIED		REMARKS	DATE TO UNDERTAKE REMEDIAL ACTIONS STATED IN REMARKS.
				YES	NO		
Hazards to worker's health and safety	<ul style="list-style-type: none"> Construction methodology under control of Safety Officer and CSC Approved Contractor's Occupational Health and Safety Plan 	Airport sites	Pre-Construction and Construction Phase	✓		- Maintain safety standards and practices on-site.	- To monitor and audit during 1 st quarter audit of 2017 -
Spread of HIV and other communicable diseases	<ul style="list-style-type: none"> Contractor to source labourers and workers from the nearby villages Contractors to increase awareness of workers 	Airport site and adjacent villages and settlements	Pre-Construction and Construction Phase	✓		- HIV/AIDS awareness implemented	- To monitor and audit during 1 st quarter audit of 2017
SOCIAL /COMMUNITY CONCERNS							
Changes in nearby land values	<ul style="list-style-type: none"> Proper valuation of land 	Surrounding areas and nearby villages	Operation phase		✓	- Not required	
Loss of aesthetics	<ul style="list-style-type: none"> Landscaping and re-vegetation 	Vicinity of Airports	Duration of Project	✓		- Ensure no impact to nearby anesthetics	- Prepare for re-grassing this 3 rd quarter, 2016 - To monitor and audit during 1 st quarter audit of 2017
Cultural differences risk/social conflicts	<ul style="list-style-type: none"> Contractor to source labourers and workers from the nearby villages 	Airport site and adjacent villages and settlements	Pre-Construction and Construction Phase	✓		- Well implemented	
Slum creation risks	<ul style="list-style-type: none"> Demolition of structures as part of abandonment plan 	Airport sites	Completion of Construction	✓		- Not applicable (NA) at this construction stage	- Prepare decommission plan by 19/8/2016 - To monitor and audit during 1 st quarter audit of 2017
Disruption of utilities	<ul style="list-style-type: none"> Investigate limits to required services and minimize disruptions 	Nearby settlements	Pre-Construction and Construction Phase	✓		- No disruption to utilities. Contractors are made aware of the public utilities and will be responsible to any disruptions caused.	- Safety Officer to monitor daily - To monitor and audit during 1 st quarter audit of 2017
Increase in traffic	<ul style="list-style-type: none"> Prepare traffic management plans 	Airport vicinities and major roads into the Airports	Duration of Project	✓		<ul style="list-style-type: none"> Movement of cars/machinery into airside aided by NAC Safety Officer Landside traffic is on normal road networks accept when needed guidance from NAC Safety Officer. Contractors have operational procedures of inflow and outflow of traffic 	- Safety Officer to monitor daily - To monitor and audit during 1 st quarter audit of 2017

SITE ABANDONMENT							
Decommissioning of work sites	<ul style="list-style-type: none"> • Preparation of abandonment plan • Return of all transient workers to original places of residences • Demolition of temporary offices and contractor's depot area • Dismantling of ancillary facilities • Re-vegetation of exposed areas • Proper disposition of construction debris 	Construction and camp sites	After completion of construction	✓		<ul style="list-style-type: none"> - Not applicable at this construction stage. However, contractor is preparing a Site Abandonment Plan 	<ul style="list-style-type: none"> - Prepare decommission plan by 19/8/2016 - To monitor and audit during 1st quarter audit of 2017

ANNEX E: EMP IMPLEMENTATION – GOROKA AIRPORT

PROJECT NAME:	GOROKA AIRPORT PAVEMENT UPGRADING, NEW TERMINAL BUILDING & ASSOCIATED WORK	CONTRACT No:		PROVINCE:	SANDAUN PROVINCE
Date of Inspection:	June 2016	Inspected By (And Designation):	Barksy (PIU)	Initial:	BP
Remarks:	Satisfactory	Witnessed By (And Designation):	Project Engineer(s)	Initial:	AD
			Contractors' Environmental Rep.	Initial:	

ENVIRONMENTAL ISSUE	MITIGATION MEASURES	LOCATIONS	TIMEFRAME	COMPLIED		REMARKS	DATE TO UNDERTAKE REMEDIAL ACTIONS STATED IN REMARKS.
				YES	NO		
SOIL EROSION							
Slope erosion and sedimentation of nearby water bodies	<ul style="list-style-type: none"> Installation of silt traps on all drains Minimize clearing of vegetation and time surfaces are exposed Establish requisite temporary/permanent control structures Undertake immediate re-vegetation after completion of construction works 	Airport vicinities	Construction Phase	✓		<ul style="list-style-type: none"> Maintain staging in works for vegetation clearing and top soiling Contractors' preparation of Re-vegetation Plan in progress to involve locals and women as well. 	<ul style="list-style-type: none"> This 3rd quarter , 2016 Before decommission ng To monitor and audit during 1st quarter audit of 2017
Sediment runoff which could damage aquatic and marine ecology or flooding issues	<ul style="list-style-type: none"> Locate stockpiles in controlled areas Sub-grade and sub-base material placed quickly after removal of topsoil Planned construction work during dry season Removal of spoils and construction debris 	Downstream of Airport sites and waterways	Construction Phase	✓			<ul style="list-style-type: none"> To monitor and audit during 1st quarter audit of 2017
WATER QUALITY/QUANTITY							
Disruption of Surface and Ground Water	<ul style="list-style-type: none"> Dimension of drains Diversion of stream Use of grassed areas for runoff Location of stockpiles on paved areas Removal of stockpiles after construction Re-vegetation after construction 	Airport and surrounding areas and Downstream from construction areas	Duration of project	✓			<ul style="list-style-type: none"> To monitor and audit during 1st quarter audit of 2017
Contamination of nearby water bodies by toxic and hazardous substances	<ul style="list-style-type: none"> Installation of oil and traps in drains Development of safe storage areas and proper handling of hazardous and toxic materials Proper disposition of hazardous and toxic materials 	Airport and surrounding areas	Duration of project	✓			<ul style="list-style-type: none"> To monitor and audit during 1st quarter audit of 2017
Pollution from domestic sewage and wastes	<ul style="list-style-type: none"> Proper solid waste management system to be practiced in work areas Installation of sanitation and treatment facilities in camps, offices and ancillary facilities 	Airport, Camps, Offices and Ancillary Facilities	Duration of project	✓			<ul style="list-style-type: none"> To monitor and audit during 1st quarter audit of 2017

ENVIRONMENTAL ISSUE	MITIGATION MEASURES	LOCATIONS	TIMEFRAME	COMPLIED		REMARKS	DATE TO UNDERTAKE REMEDIAL ACTIONS STATED IN REMARKS.
				YES	NO		
Contamination from oil and grease	<ul style="list-style-type: none"> Collect and recycle petroleum products Development of spill contingency plans Construction of bund walls and drainage systems around fuel storage areas 	Ancillary Facilities	Duration of project	✓			- To monitor and audit during 1 st quarter audit of 2017
AIR POLLUTION							
Increase in levels of Total Suspended Particulates (TSP), SO ₂ and NO ₂	<ul style="list-style-type: none"> Locate Ancillary Facilities away from residential and settlement areas Provide workers with Personal Protective Equipment (PPE) Proper maintenance of vehicles, machineries and equipment 	Airport site and adjacent villages and settlements	Pre-Construction and Construction Phase	✓		- Vehicles and machineries are maintained at contactors workshop.	- To monitor and audit during 1 st quarter audit of 2017
Health hazards and nuisances to nearby villages and settlements	<ul style="list-style-type: none"> Regular monitoring of air quality in the vicinity of the airports and sensitive receptors 	Airport site and adjacent villages and settlements	Operation Phase	✓		- Require environmental monitoring equipment to quantify. However, visual assessment indicated fewer nuisances tolerable to nearby settlement.	- To monitor and audit during 1 st quarter audit of 2017
NOISE POLLUTION							
Health risks to workers and residents of nearby villages and communities	<ul style="list-style-type: none"> Control vehicles speed in work areas and sensitive locations Locate Ancillary Facilities away from residential and settlement areas Provide workers with Personal Protective Equipment (PPE) Proper maintenance of vehicles, machineries and equipment 	All construction areas, access routes, and quarry sites	Pre-Construction and Construction Phase	✓			- To monitor and audit during 1 st quarter audit of 2017
Nuisance to residents of nearby villages and communities	<ul style="list-style-type: none"> Establishment of buffers between airport and nearby settlement areas Preparation of operational procedures by Airport Operator based on ANZECC 1992 or Australian Noise Exposure Forecast (ANEF) 	Nearby settlements	Operation Phase	✓		Contractors' vehicle and machineries Traffic is controlled and management strictly within airport are and main/access roads. - Limit use of vehicles, machines, crusher plant is done only during day time	- Safety Officer to monitor daily
OCCUPATIONAL HEALTH AND SAFETY							
Hazards to worker's health and safety	<ul style="list-style-type: none"> Construction methodology under control of Safety Officer and CSC Approved Contractor's Occupational Health and Safety Plan 	Airport sites	Pre-Construction and Construction Phase	✓		- Maintain safety standards and practices on-site. - Final OHS Plan to be submitted and approved	- October 2016 - To monitor and audit during 1 st quarter audit of 2017
Spread of HIV and other communicable diseases	<ul style="list-style-type: none"> Contractor to source labourers and workers from the nearby villages Contractors to increase awareness of workers 	Airport site and adjacent villages and settlements	Pre-Construction and Construction Phase	✓		- HIV/AIDS awareness to be incorporated during construction	- To monitor and audit during 1 st quarter audit of 2017

ENVIRONMENTAL ISSUE	MITIGATION MEASURES	LOCATIONS	TIMEFRAME	COMPLIED		REMARKS	DATE TO UNDERTAKE REMEDIAL ACTIONS STATED IN REMARKS.
				YES	NO		
SOCIAL /COMMUNITY CONCERNS							
Changes in nearby land values	<ul style="list-style-type: none"> Proper valuation of land 	Surrounding areas and nearby villages	Operation phase	✓		- Not required	
Loss of aesthetics	<ul style="list-style-type: none"> Landscaping and re-vegetation 	Vicinity of Airports	Duration of Project	✓		- ensure no impact to nearby aesthetics	- To monitor and audit during 1 st quarter audit of 2017
Cultural differences risk/social conflicts	<ul style="list-style-type: none"> Contractor to source labourers and workers from the nearby villages 	Airport site and adjacent villages and settlements	Pre-Construction and Construction Phase	✓		- Well implemented	- To monitor and audit during 1 st quarter audit of 2017
Slum creation risks	<ul style="list-style-type: none"> Demolition of structures as part of abandonment plan 	Airport sites	Completion of Construction	✓		- Not applicable (NA) at this construction stage	
Disruption of utilities	<ul style="list-style-type: none"> Investigate limits to required services and minimize disruptions 	Nearby settlements	Pre-Construction and Construction Phase	✓		- No disruption to utilities. Contractors are made aware of the public utilities	- Safety Officer to monitor daily
Increase in traffic	<ul style="list-style-type: none"> Prepare traffic management plans 	Airport vicinities and major roads into the Airports	Duration of Project	✓		<ul style="list-style-type: none"> Movement of cars/machinery into airside aided by NAC Safety Officer Landside traffic is on normal road networks accept when needed guidance from NAC Safety Officer. 	- Safety Officer to monitor daily
SITE ABANDONMENT							
Decommissioning of work sites	<ul style="list-style-type: none"> Preparation of abandonment plan Return of all transient workers to original places of residences Demolition of temporary offices and contractor's depot area Dismantling of ancillary facilities Re-vegetation of exposed areas Proper disposition of construction debris 	Construction and camp sites	After completion of construction	✓		- Not applicable at this construction stage. However, contractor is preparing a Site Abandonment Plan	

ANNEX F: COMPLIANCE STATUS WITH THE ENVIRONMENTAL COVENANTS

The status of compliance with the environment covenants in the loan agreement for Tranche 2 projects is presented below

REFERENCE	COVENANTS	COMPLIANCE
<p>Loan agreement (special Operations) – CADIP Article 1: Loan Regulations; Definitions Section 1.02.</p>	<p>Wherever used in this Loan Agreement, the several terms defined in the Loan Regulations have the respective meanings therein set forth unless modified herein or the context otherwise requires. Additional terms used in this Loan Agreement have the following meanings:</p> <p>(d) “Environmental Assessment and Review Framework” or “EARF” means the environmental assessment and review framework for the Investment Program, including any update thereto, agreed between the Borrower and ADB and incorporated by reference in the Framework Financing Agreement (FFA);</p> <p>(e) “Environmental Management Plan” or “EMP” means an environmental management plan for the Project, including any update thereto, incorporated in the IEE;</p> <p>(f) “Environmental Safeguards” means the principles and requirements set for in Chapter V, Appendix 1, and Appendix 4 (as applicable) of the SPS;</p> <p>(n) “Initial Environmental Examination” or “IEE” means an initial environmental examination for the Project, including any update thereto, prepared and submitted by the Borrower pursuant to the requirements set forth in the EARF and cleared by ADB;</p> <p>(cc) “Safeguard Policy Statement” or “SPS” means ADB’s Safeguard Policy Statement (2009);</p> <p>(dd) “Safeguards Monitoring Report” means each report prepared and submitted by the Borrower to ADB that describes progress with implementation of, and compliance with the EMP, the RP and the IPP (as applicable), including any corrective and preventative actions.</p>	<ul style="list-style-type: none"> ▪ Complying ▪ Needed improvement to submit semi-annual report to AADB on time
<p>Loan agreement (special Operations) – CADIP SCHEDULE 4 Procurement of Goods, Works and Consulting Services</p>	<p><u>Conditions for Award of Contract</u> 7. The Borrower and NAC shall not award any Works contract which involves environmental impacts until NAC has:</p> <p>(a) Obtained the final approval of the IEE from the appropriate environmental authority of the Borrower; and</p> <p>(b) Incorporated the relevant provisions from the EMP into the Works contract.</p>	<ul style="list-style-type: none"> ▪ Complying

<p>Loan agreement (special Operations) – CADIP SCHEDULE 5 Execution of Project; Financial Matters</p>	<p><u>Environment</u> 7. The Borrower shall ensure, or cause NAC to ensure, that the preparation, design, construction, implementation, operation and decommissioning of each Subproject and all Project facilities comply with: (a) all applicable laws and regulations of Borrower relating to environment, health and safety; (b) the Environmental Safeguards; (c) the EARF; and (d) all measures and requirements set forth in the IEEs, the EMP, and any corrective or preventative actions set forth in a Safeguards Monitoring Report.</p> <p><u>Safeguards – Related Provisions in Bidding Documents and Works Contracts</u> 12. The Borrower shall ensure, or cause NAC to ensure, that all bidding documents and contracts for Works contain provisions that require contractors to:</p> <p>(a) comply with the measures relevant to the contractor set forth in the IEEs, the EMP, and any corrective or preventative actions set forth in a Safeguards Monitoring Report;</p> <p>(b) make available a budget for all such environmental and social measures;</p> <p>(c) provide the Borrower and NAC with a written notice of any unanticipated environmental impacts that arise during construction, implementation or operation of the Project that were not considered in the IEEs, the EMP;</p> <p>(d) adequately record the condition of roads, agricultural land and other airport infrastructure prior to starting to transport materials and construction; and</p> <p>(e) reinstate pathways, other local infrastructure, and agricultural land to at least their pre-project condition upon the completion of construction.</p> <p><u>Safeguards Monitoring and Reporting</u> 13. The Borrower shall do the following or cause NAC to do the following:</p> <p>(a) submit semi-annual Safeguards Monitoring Reports to ADB and disclose relevant information from such reports to affected persons promptly upon submission ;</p>	<ul style="list-style-type: none"> ▪ Complying ▪ Complying ▪ Complied and budget made available/allocated in the contract agreements ▪ Complying ▪ Existing road conditions range from fair to good. Most roads are usable / accessible. Conditions of agricultural land and infrastructures are recorded through photos and videos. ▪ Complied with in line with construction site restoration / revegetation plan to be executed by the contractor. ▪ Complied and needs improvement to submit subsequent reports on time.
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	<p>(b) if any unanticipated environmental risks and impacts arise during construction, implementation or operation of the Project that were not considered in the IEEs, the EMP, promptly inform ADB of the occurrence of such risks or impacts, with detailed description of the event and proposed corrective action plan; and</p> <p>(c) report any actual or potential breach of compliance with the measures and requirements set forth in the EMP, or any RP promptly after becoming aware of the breach.</p>	<ul style="list-style-type: none"> ▪ Not applicable at this stage. ADB will be informed of the risks and impacts with the proposed corrective action. ▪ Contractors' monthly monitoring report has not been submitted to NAC on time. Contractors are notified to submit on time during monthly meetings on site
	<p><u>Health</u> 17. The Borrower shall ensure, or cause NAC to ensure, that the contractor will disseminate information on the risk of transmission of sexually-transmitted diseases, including HIV/AIDS, in health and safety programs to all construction workers employed under the Project. Specific provisions to this effect shall be included in bidding documents and Works contracts, and compliance shall be monitored by NAC and reported to ADB.</p>	<ul style="list-style-type: none"> ▪ Complied and forms part of the EMP in the contract. Several awareness were done between July – December 2016 ▪ Shall be maintained