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Report No: PAD1575

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED CREDIT

IN THE AMOUNT OF SDR 17.65 MILLION
(US$ 25 MILLION EQUIVALENT)

AND A

PROPOSED GRANT

IN THE AMOUNT OF SDR 17.65 MILLION
(US$ 25 MILLION EQUIVALENT)

TO THE

REPUBLIC OF VANUATU

FOR AN

INFRASTRUCTURE RECONSTRUCTION AND IMPROVEMENT PROJECT

June 6, 2016

Social, Urban, Rural and Resilience Global Practice
East Asia and Pacific

CURRENCY EQUIVALENTS

(Exchange Rate Effective April 30, 2016)

Currency Unit	=	Vanuatu Vatu (Vatu)
Vatu 108.88	=	US$1.00
US$1.00	=	SDR 0.71

FISCAL YEAR
January 1 – December 31

ABBREVIATIONS AND ACRONYMS

AUD	Australian Dollar	PAD	Project Appraisal Document
CERC	Contingency Emergency Response Component	PCR	Physical Cultural Resources
CRW	Crisis Response Window	PCRAFI	Pacific Catastrophe Risk Assessment and Financing Initiative
DA	Designated Account	PDNA	Post-Disaster Needs Assessment
DSPPAC	Department of Strategic Planning, Policy and Aid Coordination	PDO	Project Development Objective
EMP	Environmental Management Plan	PMO	Prime Minister's Office
ESMF	Environmental and Social Management Framework	PMU	Project Management Unit
GDP	Gross Domestic Product	POM	Project Operations Manual
GoA	Government of Australia	PPN	Policy and Practice Note
GoNZ	Government of New Zealand	PRIF	Pacific Regional Infrastructure Facility
GoV	Government of Vanuatu	PSC	Project Steering Committee
GPSS	Global Program for Safer Schools	PST	Project Support Team
GRS	Grievance Redress Service	PWD	Public Works Department
HIES	Household Income and Expenditure Survey	PRC	Program Recovery Committee
IBCs	Island Based Contractors	RPCo	Recovery Program Coordinator
ICB	International Competitive Bidding	RPF	Resettlement Policy Framework
IDA	International Development Association	R4D	Roads for Development
IRCCNH	Increasing Resilience to Climate Change and Natural Hazards Project	SDR	Special Drawing Rights
IP	Indigenous Peoples	SORT	Systematic Operations Risk-Rating Tool
MFEM	Ministry of Finance and Economic Management	SRDP	Strategy for Climate and Disaster Resilient Development in the Pacific
MIPU	Ministry of Infrastructure and Public Utilities	TC Pam	Tropical Cyclone Pam
MoET	Ministry of Education and Training	US$	United States Dollars
NGO	Non-Government Organisations	VERM	Vanuatu Education Road Map
NRESP	National Recovery and Economic	VESP	Vanuatu Education Sector Program

	Strengthening Program		
NZD	New Zealand Dollar	VESS	Vanuatu Education Sector Strategy
OP/BP	Operational Policy/Bank Procedure	VMDRR	Mainstreaming Disaster Risk Reduction Project
VIRIP	Vanuatu Infrastructure Reconstruction and Improvement Project	WB	World Bank

Regional Vice President:	Victoria Kwakwa, EAPVP
Country Director:	Franz R. Drees-Gross, EACNF
Senior Global Practice Director:	Ede Jorge Ijjasz Vasquez, GSURR
Practice Manager:	Abhas Kumar Jha, GSU08
Task Team Leaders:	Michael Bonte-Grapentin, GSU08 and James Reichert, GTI02

REPUBLIC OF VANUATU
Infrastructure Reconstruction and Improvement Project

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PAD DATA SHEET

Vanuatu

Vanuatu Infrastructure Reconstruction and Improvement Project (P156505)

PROJECT APPRAISAL DOCUMENT

EAST ASIA AND PACIFIC

Social, Urban, Rural and Resilience Global Practice

Report No.: PAD1575

Basic Information			
Project ID P156505	EA Category B - Partial Assessment		Team Leader(s) Michael Bonte-Grapentin, James A. Reichert
Lending Instrument Investment Project Financing	Fragile and/or Capacity Constraints [X] - Natural or man-made disaster		
	Financial Intermediaries: No		
	Series of Projects: No		
Project Implementation Start Date 01-Oct-2016	Project Implementation End Date 30-Oct-2021		
Expected Effectiveness Date 01-October-2016	Expected Closing Date 30-Apr-2022		
Joint IFC: No			
Practice Manager/Manager Abhas Kumar Jha	Senior Global Practice Director Ede Jorge Ijjasz-Vasquez	Country Director Franz R. Drees-Gross	Regional Vice President Victoria Kwakwa

Borrower: Republic of Vanuatu			
Responsible Agency: Ministry of Infrastructure and Public Utilities			
Contact:	Johnson Binaru	Title:	Director General
Telephone No.:	678-22888	Email:	jbiauma@vanuatu.gov.vu

Project Financing Data(in USD Million)					
[ ]	Loan	[X]	IDA Grant	[ ]	Guarantee
[X]	Credit	[ ]	Grant	[ ]	Other

Total Project Cost:	50.00	Total Bank Financing:	50.00
Financing Gap:	0.00		

Financing Source	**Amount**
Borrower	0.00
IDA Credit from CRW	25.00
IDA Grant from CRW	25.00
Total	50.00

Expected Disbursements (in USD Million)

Fiscal Year	2016	2017	2018	2019	2020	2021	2022	0000	0000	0000
Annual	0.00	3.00	7.00	9.00	11.75	11.75	7.50	0.00	0.00	0.00
Cumulative	0.00	3.00	10.00	19.00	30.75	42.50	50.00	0.00	0.00	0.00

Institutional Data

Practice Area (Lead)

Social, Urban, Rural and Resilience Global Practice

Contributing Practice Areas

Transport & ICT

Cross Cutting Topics

[X] Climate Change

[ ] Fragile, Conflict & Violence

[X] Gender

[ ] Jobs

[ ] Public Private Partnership

Sectors / Climate Change

Sector (Maximum 5 and total % must equal 100)

Major Sector	Sector	%	Adaptation Co-benefits %	Mitigation Co-benefits %
Public Administration, Law, and Justice	Public administration-Education	60	60	
Transportation	General Transport Sector	30	30	
Public Administration, Law, and Justice	General public administration sector	10	10	
Total		100		

☐ I certify that there is no Adaptation and Mitigation Climate Change Co-benefits information applicable to this project.

Themes

Theme (Maximum 5 and total % must equal 100)

Major theme	Theme	%
Social protection and risk management	Natural disaster management	35
Urban development	Urban planning and housing policy	35
Environment and natural resources management	Climate change	30
Total		100

Proposed Development Objective(s)

The project development objective is to reconstruct and/or improve the disaster and climate resilience of selected public sector assets in provinces impacted by Tropical Cyclone Pam, and to provide immediate and effective response to an Eligible Crisis or Emergency.

Components

Component Name	**Cost (USD Millions)**
Road Reconstruction & Improvement	26.00
School Reconstruction & Improvement	13.00
Public Building Reconstruction & Improvement	6.50
Project Implementation & Technical Support	4.50
Contingency Emergency Response	0.00

Systematic Operations Risk- Rating Tool (SORT)

Risk Category	**Rating**
1. Political and Governance	Substantial
2. Macroeconomic	Moderate
3. Sector Strategies and Policies	Moderate
4. Technical Design of Project or Program	Moderate
5. Institutional Capacity for Implementation and Sustainability	Substantial
6. Fiduciary	Substantial
7. Environment and Social	Substantial
8. Stakeholders	Low
9. Other	Substantial
OVERALL	Substantial

Compliance

Policy

Does the project depart from the CAS in content or in other significant respects?	Yes [ ] No [X]
Does the project require any waivers of Bank policies?	Yes [ ] No [X]
Have these been approved by Bank management?	Yes [ ] No []
Is approval for any policy waiver sought from the Board?	Yes [ ] No [X]
Does the project meet the Regional criteria for readiness for implementation?	Yes [X] No [ ]

Safeguard Policies Triggered by the Project	**Yes**	**No**
Environmental Assessment OP/BP 4.01	**X**	
Natural Habitats OP/BP 4.04	**X**	
Forests OP/BP 4.36		**X**
Pest Management OP 4.09		**X**
Physical Cultural Resources OP/BP 4.11	**X**	
Indigenous Peoples OP/BP 4.10		**X**
Involuntary Resettlement OP/BP 4.12	**X**	
Safety of Dams OP/BP 4.37		**X**
Projects on International Waterways OP/BP 7.50		**X**
Projects in Disputed Areas OP/BP 7.60		**X**

Legal Covenants

Name	**Recurrent**	**Due Date**	**Frequency**
Schedule 2, Section I.A4 Project Support Team		Four months after effectiveness	Continuous

Description of Covenant

The Recipient shall establish, by not later than four months after the Effective Date, and thereafter maintain, throughout the Project implementation period, a Project Support Team ("PST") within MIPU.

Name	**Recurrent**	**Due Date**	**Frequency**
Schedule 2, Section I.B1 Selected Public Buildings	x		Continuous

Description of Covenant

The Recipient shall ensure that (i): only the Selected Buildings included in an approved Annual Work Plan and Budget shall be eligible for financing under the Project; and (ii) the total

financing for any reconstruction/rehabilitation works for each respective Selected Public Building shall not exceed $300,000 (three hundred thousand Dollars) equivalent, unless otherwise approved in writing by the Association.

Name	Recurrent	Due Date	Frequency
Schedule 2, Section I.B2 Project Operations Manual		Three months after effectiveness	Continuous

Description of Covenant

The Recipient shall prepare, by not later than three months after the Effective Date, and thereafter adopt a Project Operations Manual, setting forth the arrangements and procedures for the implementation of the Project.

Conditions

Source Of Fund	Name	Type
IDA	Schedule 2, Section IV.B.1(b)	Disbursement

Description of Condition

No withdrawal shall be made under Category (3) for Emergency Expenditures unless and until the Recipient has: (i) declared that an Eligible Crisis or Emergency has occurred, and the Association has agreed in writing to such determination; and (ii) complied with all requirements set forth in Section I.D of the Financing Agreement.

Team Composition

Bank Staff

Name	Role	Title	Specialization	Unit
Michael Bonte-Grapentin	Team Leader (ADM Responsible)	Senior Disaster Risk Management Specialist		GSU08
James A. Reichert	Team Leader	Senior Infrastructure Specialist		GTI02
Zhentu Liu	Procurement Specialist (ADM Responsible)	Senior Procurement Specialist		GGO08
David Bruce Whitehead	Financial Management Specialist	Financial Management Specialist		GGO20
Chau-Ching Shen	Finance Officer	Senior Finance Officer		WFALN
Jane Millicent Sprouster	Team Member	Operations Officer		EACNF

Kanya Hilary Baratha Raj	Team Member	Team Assistant		EACNF
Loren Jayne Atkins	Counsel	Associate Counsel		LEGES
Marjorie Mpundu	Counsel	Senior Counsel		LEGES
Penelope Ruth Ferguson	Environmental Specialist	Consultant		GENDR
Ross James Butler	Safeguards Specialist	Senior Social Development Specialist		GSU02
Yohana Kristi	Team Member	Program Assistant		EACNF

Extended Team

Name	Title	Office Phone	Location
John Lowsby	Consultant, Infrastructure Engineer	2687602-5248	

Locations

Country	First Administrative Division	Location	Planned	Actual	Comments
Vanuatu	Tafea	Tafea Province	**X**		
Vanuatu	Malampa	Malampa Province	**X**		
Vanuatu	Penama	Penama Province	**X**		
Vanuatu	Shefa	Shefa Province	**X**		

I. STRATEGIC CONTEXT

A. Country Context

1. The Republic of Vanuatu is an archipelago of 83 volcanic islands (65 of which are inhabited) covering a total land area of about 12,200 square kilometers. Vanuatu's population of approximately 258,000[1] people is almost evenly distributed among the six administrative provinces of Malampa, Penama, Sanma, Shefa, Tafea and Torba. Over the last decade, Vanuatu has been one of the faster growing economies of the Pacific Region, mainly driven by tourism, construction, and aid inflows. The Gross Domestic Product (GDP) per capita is around United States Dollars (US$) 3,200.

2. Vanuatu is located in the "Pacific Ring of Fire" and is also at the center of the Pacific "cyclone belt." This results in a high frequency of earthquakes, volcanic eruptions, cyclones, tsunamis, storm surges, coastal and river flooding and landslides. In addition, the country suffers from extreme events associated with climate variability, including sea level and temperature extremes, and droughts. Vanuatu has been assessed to be the world's most vulnerable country to natural disasters, based on the Commonwealth Vulnerability Index. Vanuatu is expected to incur, on average, US$ 48 million per year in losses due to earthquakes and tropical cyclones. In the next 50 years, Vanuatu has a 50 percent chance of experiencing another loss exceeding US$ 330 million, and a 10 percent chance of experiencing a loss exceeding US$ 540 million.[2] Recent disasters in Vanuatu include: (i) Cyclone Zena in 2016, caused severe damages to crops and houses in Sanma and Penama (ii), severe drought in El Nino season of 2015, caused severe food and water shortages and exacerbated impacts of Tropical Cyclone Pam (see Section B), (iii) Port Vila Ms7.3 Earthquake of 2002, damages to buildings and infrastructure in Port Vila and surrounding peri-urban areas, (iv) Cyclone Ivy in 2004, damages led to a decline in cocoa exports of 50 percent in that year; (v) Cyclone Dani in 1999, which caused over US$ 8 million in damage to heavy infrastructure; and (vi) three cyclones which struck in 1987 and 1988, resulting in 50 deaths and over US$ 152 million in property damage.

B. Situations of Urgent Need of Assistance or Capacity Constraints

3. Between March 12 and 14, 2015, Tropical Cyclone Pam (TC Pam) struck 22 islands of Vanuatu as an extremely destructive category 5 cyclone. The total economic damage and losses as a result of the cyclone were estimated to be approximately US$ 450 million, which equates to approximately 64 percent of the country's GDP.[3] Shefa and Tafea were the worst affected provinces, in particular on the larger islands of Tanna, Erromango and Efate and the smaller Shepard islands. Eleven fatalities were recorded in Tafea and Shefa province. As many as 65,000 people were displaced from their homes, around 17,000 buildings were damaged or destroyed, and the livelihoods of at least 80 percent of Vanuatu's rural population were compromised due to large scale destruction of crops.[4] Losses from TC Pam

[1] World Bank, 2014.
[2] PCRAFI Risk Profile, 2011.
[3] Vanuatu Post Disaster Needs Assessment, Tropical Cyclone Pam, March 2015 (GoV).
[4] Vanuatu Post Disaster Needs Assessment, Tropical Cyclone Pam, March 2015 (GoV).

reduced GDP growth substantially relative to the 2015 pre-cyclone forecast, despite the partial offset provided by post-cyclone recovery activities. Most estimates suggest that growth in 2015 was zero or slightly negative.[5]

4. In the wake of TC Pam, the Government of Vanuatu (GoV) officially declared a state of emergency for Shefa Province on March 15, 2015. Emergency response efforts were led by the government with the support of multiple humanitarian partners, international and national non-governmental organizations, foreign governments, and donors. GoV undertook a Post-Disaster Needs Assessment (PDNA) with the support of the World Bank and other development partners[6], which formed the basis of the National Recovery and Economic Strengthening Program (NRESP) to guide the recovery and reconstruction of all sectors affected by TC Pam. Recovery and reconstruction costs are estimated at US$ 316 million.[7]

5. TC Pam triggered an insurance payout of US$ 1.9 million for GoV under the Pacific Catastrophe Risk Assessment and Financing Initiative (PCRAFI) pilot insurance scheme. About US$ 80 million was committed by development partners as grant financing in 2015 (the majority of which was in response to the cyclone) although much of this amount remains to be programmed. In the absence of further support from development partners (in the form of grants and/or soft loans), the GoV will only be able to meet a fraction of its recovery needs.

6. The World Bank will provide US$ 50 million to Vanuatu in response to TC Pam through the International Development Association (IDA) Crisis Response Window (CRW) to finance the proposed Vanuatu Infrastructure Reconstruction and Improvement Project (VIRIP). A separate US$ 0.25 million World Bank executed Technical Assistance activity will support school infrastructure reconstruction & rehabilitation program as part of the Global Program for Safer Schools (GPSS). In addition, the ongoing Vanuatu Aviation Investment Project includes an additional US$ 5 million for emergency repairs of airport terminals damaged by TC Pam.

7. The proposed VIRIP will provide financial support to GoV through numerous targeted investments in road assets, and to reconstruct schools and public buildings damaged by TC Pam. It will inject much needed funding at the local level through Island-Based Contractors (IBCs), create possible business opportunities for members of those communities in the future maintenance of these assets, and provide skills training. The Project will operate in parallel with and complement ongoing World Bank supported projects, namely: *Increasing Resilience to Climate Change and Natural Hazards Project (IRCCNH*) and *Mainstreaming Disaster Risk Reduction Project (VMDRR);* and the Bank implemented *Building Climate and Disaster Resilience in the Pacific* technical assistance program.

[5] Vanuatu Post Disaster Needs Assessment, Tropical Cyclone Pam, March 2015 (GoV).

[6] The Government of the Republic of Vanuatu led the Post-Disaster Needs Assessment (PDNA) supported by the European Union, United Nations agencies, the Secretariat of the Pacific Community, the World Bank Group, and other development partners. The PDNA was financed by ACP-EU Natural Disaster Risk Reduction Program (ACP-EU NDRRP) and the Global Facility for Disaster Risk Reduction (GFDRR).

[7] Vanuatu Post Disaster Needs Assessment, Tropical Cyclone Pam, March 2015 (GoV).

C. Sectoral and Institutional Context

8. Overall coordination and oversight of GoV's reconstruction program is being led by the Program Recovery Committee (PRC), which is chaired by the Prime Minister's Office (PMO). The Ministry of Infrastructure and Public Utilities (MIPU) has been designated as lead ministry and will establish a committee to provide guidance and strategic oversight to donor-funded projects. Road sector infrastructure, schools and other public buildings are a significant priority for reconstruction activities, as reflected in NRESP. MIPU will be responsible for coordinating the repair, reconstruction and upgrading of this infrastructure. MIPU's capabilities will need to be strengthened through both technical assistance and implementation support that will be provided through the Project.

9. Road Sector. The national public road network of Vanuatu comprises a total of 2,233 km of roads across 24 islands, with 83 percent of the network constructed on eight main islands. The paved network, around five percent of the total, is restricted to Efate and Santo. The remaining 95 percent, which makes up the primary network on all other islands, constitutes unpaved gravel and earth roads, typically island ring roads that follow the settlement patterns near the coastlines.

10. Urban areas of Port Vila and Luganville account for the majority of sealed roads, with the Efate's Ring Road and Santo's East Coast Road representing the first extensive sealed roads outside the two main towns. With the exception of these roads, most of the sealed network was already in poor condition prior to TC Pam, due to infrequent and inadequate maintenance and the lack of effective drainage to adequately accommodate storm water flows. Runoff from heavy rain damages road surfaces and carries debris into gullies and low-lying areas, further exacerbating the problems in areas prone to flooding. A limited number of near coast road sections are subject to coastal erosion and inundation and require adequate protection.

11. On most islands other than Efate, Santo, and Tanna, road links have developed largely to service the administrative and economic needs of remote communities. There are still many locations where separate sections of road are not linked. Most unsealed roads are also in poor condition for the same reasons given above. Recent road rehabilitation work has shown that many roads are in such an advanced state of deterioration that they will need to be reconstructed, rather than repaired.

12. Road construction and maintenance are the responsibility of the Public Works Department (PWD) in MIPU. Traditionally, PWD carried out routine and periodic maintenance through force account.[8] Although roadside maintenance is now procured through community contracting (where funding allows), and some small spot improvements are carried out by island based contractors through donor funding, most routine and periodic maintenance is still done with PWD's own heavy equipment. The age of this equipment, combined with a lack of funding for fuel and spare parts, results in extremely low productivity levels and limited output.

[8] Where PWD executes road works using its own plant, equipment and labor force.

13. TC Pam significantly impacted the road networks and facilities, resulting in total damage and loss estimated at US$ 22.6 million. Cyclone damage to the road transport networks was concentrated on the Efate Ring-Road, rural roads and the washing out of bridge approaches and culverts due to excessive rainfall. There were also instances of severe, localized damage to exposed coastal roads and embankments from storm surges.

14. Education Sector. MIPU will be responsible for repairing, upgrading and rebuilding school and kindergarten buildings. The Ministry of Education and Training (MoET), which sets policy and direction for the education sector, will be actively involved in recovery activities.

15. The impact of TC Pam on the education sector has been labeled "catastrophic" resulting in damage and losses estimated at US$ 36.9 million. The cyclone severely damaged classrooms (618 classrooms damaged or destroyed), staff houses (490 damaged or destroyed), and kindergartens (218 damaged or destroyed). School resources, including furniture and learning materials, were also damaged or destroyed.[9]

16. Repair and/or reconstruction of damaged schools is underway, albeit in a piecemeal fashion with some schools benefitting from support from donors or relief funding from MoET. Schools that have not received direct donor support have purchased materials and/or funded repairs from their school funds, typically a combination of school grants (from MoET based on enrollments) and funds raised by the school community. Irrespective of the source of funds, the quality of materials used in repairs is unknown. Also unknown is whether qualified and experienced tradespeople undertook the works and/or were adequately supervised. Based on trends observed during project preparation, a retrofitting and reconstruction effort that does not improve the existing standard of construction practice leaves school infrastructure vulnerable to future hazards.

17. Improvement of the quality of school infrastructure is a priority for GoV as set out in the Vanuatu Education Sector Strategy 2007-2016 (VESS) and the Vanuatu Education Support Program (VESP). One of VESP's central strategies is to deliver a school infrastructure development program that "improves the stock of school facilities and equipment (classrooms, desks, dormitories, teacher housing, clean water, sanitation and other infrastructure such as electricity)." MoET has a planned program of investment in school infrastructure that is expected to deliver some 42 classrooms in 18 locations on Tanna. This program seeks to utilize IBCs to deliver the works under the supervision of local engineering consultancies. In parallel, a community engagement program is planned in order to maximize the involvement of communities in the delivery of enabling works at each school.

18. The Governments of Australia (GoA) and New Zealand (GoNZ) provide financial support to VESP through a joint-partnership agreement with GoV. GoA has allocated funding of 8 million Australian Dollars (AUD) for primary school infrastructure recovery efforts, GoNZ may contribute a further 1.2 million New Zealand Dollars (NZD) to primary

[9] Vanuatu Post Disaster Needs Assessment, Tropical Cyclone Pam, March 2015 (GoV).

school reconstruction. The Government of France (GoF) is supporting reconstruction of classrooms with a further US$1.2 million. The Asian Development Bank has committed US$ 5 million for rebuilding and/or upgrading five secondary schools in Tafea Province to disaster-resilient and climate-proof standards.

19. Improved resilience of school infrastructure will be supported by the planned World Bank executed GPSS Technical Assistance program, with funding support from the Australia Safe School Facility Program. GPSS will assist the development and implementation of a school infrastructure reconstruction & rehabilitation program in Vanuatu which will support and complement VIRIP. The GPSS TA in Vanuatu will strengthen safe school practices in disaster preparedness, repair, rehabilitation and retrofitting, along with the institutional environment and regulatory framework for school infrastructure. It will also build the capacity of the construction profession within the schools sector, and provide recommendations for prioritizing investments for retrofitting, reconstruction and/or rehabilitation for public school facilities.

20. More than a year after TC Pam, many schools continue to utilize temporary facilities in the form of donated tents and tarpaulins for classrooms, offices and staff housing. The absence of suitable infrastructure in which to run classes increases the risk of students discontinuing their education. In addition, the onset of subsequent cyclone seasons (October through March) will place significant stress on the temporary facilities. Schools are used as evacuation centers and rapid reconstruction is required to increase disaster preparedness so that communities will have access to structures that are upgraded to higher quality structural standards.

21. Public Buildings. TC Pam caused damage estimated to be around US$ 5 million to public buildings, including health facilities, provincial and national government offices and associated buildings; some buildings are now irreparable or have incurred further damage. In many cases, the buildings had not been designed for cyclonic wind events, and the colonial-era buildings are generally not of good construction. Poor maintenance has also left many public buildings vulnerable to disaster events. As in the case of the road and education sectors, MIPU will be responsible for repairing, upgrading and rebuilding public buildings that were damaged by TC Pam.

D. Higher Level Objectives to which the Project Contributes

22. VIRIP is consistent with GoV's Disaster Risk Reduction and Disaster Management National Action Plan (2006-2016), and the Vanuatu Infrastructure Strategic Investment Plan (VISIP) for 2015-2024 developed under the Pacific Region Infrastructure Facility (PRIF). It also addresses key priorities of the Pacific Regional Framework for

Action on Disaster Risk Management, 2005-2015[10] and its proposed successor, the Strategy for Climate and Disaster Resilient Development in the Pacific[11] (SRDP).

23. The Project is aligned with relevant World Bank sector policies, principles, and the broader strategic approach in the Pacific Region of promoting greater resilience in the aftermath of disasters using the principles of "building back better." In particular, VIRIP is consistent with the World Bank Engagement Note for Disaster and Climate Resilient Development Programming in the Pacific Islands Region (August, 2014), and the Policy and Practice Note (PPN) "Acting Today for Tomorrow" (2012). The Project builds on the Bank's experience over several years in resilient investments, post-disaster reconstruction, and activities to address climate change adapation and disaster risk reduction in Vanuatu itself and across the Pacific Region, including Kiribati, Samoa, Tonga and the Solomon Islands.

24. VIRIP is aligned with the World Bank Group's twin goals of ending extreme poverty and boosting shared prosperity. Disasters such as TC Pam impact entire societies; however the poor and vulnerable, including women, children and the elderly, are hit hardest. Disasters also induce and exacerbate poverty. Reconstructing and improving key public assets damaged by TC Pam will be crucial for improving access and living conditions in the country, which is an important, non-monetary dimension of poverty reduction and shared prosperity. Children living in extreme poverty and children in the bottom 40 percent of the consumption distribution are expected to benefit significantly from the reconstructed schools under VIRIP. Across Vanuatu, children living in the bottom 40 percent of the consumption distribution comprise 42 percent of the primary school student population and 40 percent of the junior secondary school population.

II. PROJECT DEVELOPMENT OBJECTIVES

A. PDO

25. The project development objective (PDO) is to reconstruct and/or improve the disaster and climate resilience of selected public sector assets in provinces impacted by Tropical Cyclone Pam, and to provide immediate and effective response to an Eligible Crisis or Emergency.

B. Project Beneficiaries

26. The primary beneficiaries of this project would be the communities and students that will have schools and public buildings reconstructed to improved standards for greater climate resilience, and the users of road networks in locations where improvements are to be made. Students attending reconstructed schools would benefit from an early return to

[10] Theme 4: *'Planning for Effective Preparedness, Response and Recovery'*, and theme 5: '*Effective, Integrated and People-Focused Early Warning System*s'.

[11] Action 2.10.7: '*Strengthened capacity to anticipate, resist, plan and prepare for, respond to and recover from the consequences of disasters and climate change'.*

education under shelter and safer conditions. Members of communities will have schools reconstructed in locations and to standards suitable to serve as future evacuation centers and so would benefit from having shelter that has been upgraded to higher quality structural standards during extreme weather events. Because the exact locations of schools to be reconstructed and road assets to be improved will only be decided during implementation, beneficiaries cannot be quantified at this time. However, given the relatively small geographic size of the islands, and because improvements are likely to be on main roads and within existing road reserves/carriageways which all inhabitants use, the majority of the populations on islands supported by the project are expected to benefit from improved access.

C. PDO Level Results Indicators

27. Achievement of the PDO will be measured by the following outcome indicators:

- Population on project islands with improved road and pedestrian access (number, with sub-indicator of breakdown of percentage of women/men); and
- Number of users/beneficiaries of schools reconstructed and upgraded to higher structural safety standards (number, with sub-indicator of breakdown of percentage of women/men).

III. PROJECT DESCRIPTION

A. Project Components

28. VIRIP consists of five components, which are briefly described below. Annex 2 provides a more detailed description of project components.

29. Component 1: Road Reconstruction & Improvement (US$ 26.00 million). Carrying out road repair works and undertaking spot improvements to road sector assets affected by Tropical Cyclone Pam, including improving the resilience of road sector assets in provinces affected by Tropical Cyclone Pam.

30. Small works to be carried out by IBCs are expected to include repairs to embankments and strengthening of coastal protection measures, improvements to existing roads and drainage structures, including drifts and/or vented drifts on water crossings, pipe culverts, lined drains, and low-maintenance surfacing on steep grades in the form of concrete pavements or concrete "tire paths." In some remote locations, walking tracks would be improved at critical locations with concrete steps or surfacing on steep grades and simple pedestrian bridges over water crossings. More complex improvements would also be undertaken to improve existing road sector assets to more resilient standards to withstand future climatic events.

31. It is expected that road assets be reconstructed and/or improved within their existing boundaries and will avoid, or require minimal, new land acquisition.

32. Technical support would be provided to consult with stakeholders and design and supervise the construction of works as well as develop the institutional capacity for appropriate inspection and supervision of works.

33. Component 2: School Reconstruction & Improvement (US$ 13.00 million). Reconstruction, rehabilitation, repair, or retrofit of schools affected by Tropical Cyclone Pam, including improving the resilience of schools in provinces affected by Tropical Cyclone Pam.

34. While this component could fund works in provinces of Vanuatu that were affected by TC Pam, it is expected that schools in Shefa and Tafea Provinces will be the focus. Schools, classrooms and other buildings damaged by TC Pam would be constructed or reconstructed with at least one building of selected schools complying with technical standards required for evacuation centers. It would also be outside of tsunami and storm-surge inundation areas so that it can be used as an evacuation centre. Improved water supply and sanitation facilities and other amenities would also be built to enable one building to serve as an evacuation center. The resilience of schools that were not impacted by TC Pam could also be improved.

35. The preliminary damage assessments carried out by MoET in the immediate aftermath of TC Pam pointed to the potential use and subsequent exposure of asbestos wall cladding in schools and public buildings. An early and urgent activity under the component will be to carry out a detailed asbestos identification survey and preparation and implementation of the immediate safe bundling, subsequent safe transporting and disposal at an approved landfill site of the asbestos. The Environmental and Social Management Framework (ESMF) has an Asbestos Protocol, which requires safe deconstruction, bundling and subsequent safe transporting and disposal of asbestos at an approved disposal site.

36. It is expected that schools will be reconstructed and/or improved within their existing boundaries and will avoid, or require minimal, new land acquisition.

37. Protocols will be established by government regarding the return of schools to their original use within a specified period of time after an event has occurred.

38. Technical support would be provided to consult with stakeholders and design and supervise construction of works and develop the institutional capacity for appropriate building inspection and supervision of works.

39. Component 3: Public Building Reconstruction & Improvement (US$ 6.50 million). Reconstruction or rehabilitation or improvement or retrofit of Selected Public Buildings affected by Tropical Cyclone Pam, including improving the resilience of Selected Public Buildings in provinces affected by Tropical Cyclone Pam.

40. Damage to public buildings was similar to that of schools, with roofs and steel frames fully or partially destroyed, and roof timbers missing. Public buildings would be reconstructed through a prioritization and selection process to be developed by MIPU, agreed with the Bank, and endorsed by PRC. The types of public buildings that would be eligible for reconstruction and improvement, as well as financial limits, are stipulated in the

legal agreements. As is the case for roads and schools, the resilience of public buildings that were not impacted by TC Pam could also be improved.

41. It is expected that public building will be reconstructed and/or improved within their existing boundaries and will avoid, or require minimal, new land acquisition.

42. Protocols will be established by government regarding the return of public buildings to their original use within a specified period of time after an event has occurred.

43. Technical support would be provided to consult with stakeholders and design and supervise construction of civil works and develop the institutional capacity for appropriate building inspection and supervision of works.

44. Component 4: Project Implementation & Technical Support (US$ 4.50 million). Carrying out a program of activities designed to enhance the capacity of the Recipient for Project management, implementation, coordination, monitoring and evaluation of the Project, such program to include the establishment and maintenance of a Project Support Team.

45. Resources would be utilized to establish a dedicated Project Support Team (PST) within MIPU to assist in managing VIRIP, and ensure that the Bank's fiduciary, safeguards and reporting requirements, including monitoring and evaluation, are met throughout the implementation period. Key staff will include a qualified project manager/coordinator, a procurement specialist, a project accountant, and a safeguards specialist. It is anticipated that inputs from technical specialists, such as communication/community liaison and monitoring and evaluation specialists, or technical specialist, will be needed from time-to-time. In addition, proceeds from VIRIP will also be used to finance annual project audits.

46. Technical support would be provided to review and assess the existing legislative and institutional framework to create a sustainable source of funding for maintenance of road assets and/or schools and/or Selected Public Buildings, and to develop action plans and/or recommendations to strengthen such legislative and institutional frameworks, such as the Public Roads Act or to develop/revise the country's building code, so as to improve its implementation. A program of activities to train and build the capacity of outer-island contractors and communities to participate in improvements to road assets, and safe building construction methods (schools) would be carried out.

47. Component 5: Contingency Emergency Response (US$ 0.00 million). This zero-cost component would support preparedness and rapid response to an Eligible Crisis or Emergency, if needed. Following the declaration of a disaster or state of emergency, it allows for reallocation of credit and grant proceeds from VIRIP components under streamlined procurement and disbursement procedures, or a mechanism to channel additional funds, should they become available, as a result of an emergency.

B. Project Financing

48. Table 1 estimates project costs, which is inclusive of taxes. The World Bank would provide SDR 35.30 million (US$ 50 million equivalent) to finance the project from the IDA CRW, 50 percent as a Credit and 50 percent as a Grant.

Table 1: Project Costs and Financing
(US$ million, inclusive of taxes)

Project Components	Project Cost	% Financing
1. Road Reconstruction & Improvement	26.00	52.6
2. School Reconstruction & Improvement	13.00	25.8
3. Public Building Reconstruction & Improvement	6.50	12.6
4. Project Implementation & Technical Support	4.50	9.0
5. Contingency Emergency Response	0.00	0.0
Total Project Costs:	50.00	100.00
Total Financing Required:	**50.00**	100.00

C. Lessons Learned and Reflected in the Project Design

49. The design of VIRIP reflects experience from previous reconstruction projects in the Pacific Region (i.e., the Tonga Cyclone Ian Reconstruction and Climate Resilience Project and the Samoa Post Tsunami Reconstruction Project). It also takes into account lessons from other large-scale reconstruction projects (including those in Aceh following the Indian Ocean Tsunami in 2004 and in Haiti following the 2010 earthquake). It carefully balances an established approach adequate to the low capacity environment, using local contractors, sound road construction practices and proven cyclone-proof building design. It will also include global good practice on promoting supported self-recovery (i.e., through the community inputs to school repairs and reconstruction) to enable mobilization of additional community resources as part of the recovery effort. The project design also recognizes the opportunity available in the aftermath of the disaster to enforce reconstruction to improved standards, and to encourage resilience strengthening measures of less severely damaged or undamaged assets and so reduce future impacts of disasters.

50. *Avoid land acquisition with emergency operations.* Throughout the Pacific Region, activities affecting involuntary resettlement on customary land are complex and require substantial time as well as the involvement of numerous entities to resolve. Because VIRIP is an emergency operation, works to be carried out under the project will minimize the compulsory acquisition of land and avoid the resettlement of individuals or businesses. To the extent possible, all assets, including roads, schools, public buildings, and associated structures, will be reconstructed and/or improved within their existing boundaries/footprints. Where this cannot be achieved, any such land access would be negotiated in the first instance. Land may be voluntarily granted to the project based on the Voluntary Land Donation Protocol in the ESMF, or under a lease arrangement. Such a process would be subsequent to a meaningful consultation and citizen engagement process.

Where this process was not successful, and the project could not be forfeited, then the involuntary resettlement processes would be used under the Resettlement Policy Framework, included in the ESMF.

51. *Implementation support for emergency projects needs to be intensive*. Because emergency projects are typically prepared over shorter time periods, some details are often left to be finalized during implementation. In addition, flexibility is required to deal with changing post-disaster conditions. The World Bank recognizes that more support for implementation should be provided for emergency operations. Furthermore, experience from the IRCCNH and VMDRR projects indicates the need for strong implementation support and capacity strengthening in Vanuatu. In response the design of the project has sought to build on, consolidate and strengthen capacity where possible, while being mindful not to over-burden existing resources. The Project includes support to strengthen the technical and implementation capacity of both MIPU and MoET (Components 1, 2 and 3), and a component that will provide coordination, technical and fiduciary support to the relevant ministries (Component 4).

52. *A proliferation of reconstruction and climate-related support requires careful and high-level coordination.* There is a proliferation of climate-related funding channeled through a large number of projects supported by multiple donors in the Pacific and Vanuatu and likely to increase further in the coming years, over and above the direct post-TC Pam reconstruction commitments (Annex 5). As a result, staff of the implementing agencies are spread extremely thinly across the plethora of projects, which detracts from them carrying out their regular responsibilities and at times, may lead to conflicting or duplication of support in specific provinces and communities. GoV has established a high level PRC that will provide high level oversight of the Project and coordination with other reconstruction and ongoing projects.

IV. IMPLEMENTATION

A. Institutional and Implementation Arrangements

53. Coordination of GoV's TC Pam reconstruction and recovery program is overseen by the PRC. The PRC is supported by a committee of executives from key ministries that will provide policy direction and coordinate donor projects. A Project Implementation Committee, chaired by PWD Director and with the participation of the PMO, MFEM, and MoET, has been established to serve as the Project Steering Committee providing overall oversight of the Project.

54. The executing agency for VIRIP will be the Ministry of Finance and Economic Management (MFEM), and MIPU will be the implementing agency. A PST will be established within MIPU to ensure that the project is implemented in accordance with Bank policies and procedures. Brief descriptions of the roles and responsibilities of key entities involved in implementing VIRIP are provided in Annex 3.

B. Results Monitoring and Evaluation

56. Annex 1 provides details of the project's PDO level and Intermediate Results Indicators, including preliminary annual and end targets, as well as the definition of each indicator, the data source/methodology, and responsibility for data collection. Members of the PST will be required to have demonstrated skills in data collection and reporting, preferably with experience of working on Bank projects. This expertise will be bolstered with support from the Bank Team through the provision of reporting templates and feedback on reports.

57. MIPU will issue quarterly progress reports that will be due not later than forty five (45) after the end of March, June, September and December. The MIPU will also monitor progress against agreed performance indicators, as defined in Annex 1. It will furnish a comprehensive mid-term report by mid-2019 in advance of a formal joint review of the project by GoV and the Bank. MIPU will furnish GoV's Implementation Completion and Resulta Report of the Project within six months of the end of project implementation.

58. **Citizen engagement** will be supported by this project through: (i) consultations and discussions during project planning using community participation officers (MoET) and community partnership officers (PWD) for management of safeguards aspects; (ii) consultations and participation in the project implementation, particularly through labor and community-based infrastructure rehabilitation and; (iii) capacity-building provided to men and women in communities as part of project planning and implementation. Information on the potential social impacts, community development, and planned mitigation measures has been and will continue to be shared with the public. Baseline data will be gathered at each village, during preliminary consultations before subprojects are carried out. Citizen engagement will be measured through the project's Results Framework by the following indicators: (i) percentage of beneficiaries reporting that project investments reflected their needs; and (ii) percentage of registered grievances related to the project activities that are appropriately responded to within two weeks.

C. Sustainability

58. Reconstructing and improving road sector assets, schools and public buildings to more climate resilient standards will support sustainability. The project will extend support to advance ongoing initiatives to develop an institutional framework to sustainably fund and maintain roads. It will also train and build the capacity of outer-island contractors and communities to participate in the construction and maintenance of road assets and buildings, as well as schools. A complementary Bank executed Technical Assistance activity as part of the Global Program for Safer Schools will support development of the school infrastructure maintenance and financing policy.

V. KEY RISKS

A. Overall Risk Rating and Explanation of Key Risks

59. The Systematic Operations Risk-Rating Tool (SORT) in the Data Sheet summarizes the risk ratings for the project. The overall implementation risk of VIRIP is rated substantial, based on the rating of substantial for the following risk categories: political and governance; institutional capacity for implementation and sustainability; fiduciary; environmental and social; and other risks.

60. **Political and Governance.** Vanuatu has been marked by political instability and frequent changes in government, which can lead to changes in policy directions and senior civil service positions, which could delay or disrupt implementation. To minimize the risk of political interference, VIRIP sub-projects will be identified based on prior agreed criteria and processes as outlined in the Project Operations Manual.

61. **Institutional Capacity for Implementation and Sustainability.** MIPU's capacity to implement and sustain work proposed under the project is relatively weak, particularly due to limited human resources and a large number of competing infrastructure and reconstruction projects, e.g., urban projects for Port Vila, Port Vila's Lapatasi Port facility, and improvements at various wharves and jetties throughout the country. This risk will be mitigated through the provision of technical assistance to MIPU consisting of supervising engineers and site inspectors to oversee works and manage contractors, as well as develop capacity of the local construction and roadside/building maintenance island-based contractors and communities.

62. **Fiduciary.** There is little capacity in MIPU and no prior experience with World Bank procurement and financial management processes. Mitigation measures agreed as a result of the procurement and financial management assessments are summarized in Section VI, C and D.

63. **Environmental and Social.** Improvements to road assets may have minor to moderate environmental and social risks, relating to temporary impacts on water quality during construction, and disturbances to foreshore, freshwater and riparian habitats. The reconstruction of schools and public buildings have low environmental and social risk and involve repairing or replacing existing structures on existing footprints or within existing compound boundaries. Key risks are the identification and management of hazardous waste (particularly asbestos) and the approval of land owners to use land for building replacement/renovations. The existing capacity to address these risks during implementation will be supplemented by technical assistance under Component 4 of VIRIP.

64. **Other Risks.** In the event of a significant disaster event occur during the implementation of VIRIP, the attention of the implementing agencies could be diverted to immediate disaster response and recovery needs of the new disaster. A Contingency Emergency Response Component has been included in VIRIP to enable a quicker and more efficient response from Government. In addition, the PCRAFI insurance scheme will provide immediate liquidity in case of a major eligible disaster.

65. A screening of the proposed project for short- and long-term climate change and disaster risks, undertaken using the World Bank Climate and Disaster Risk Screening Tool, highlighted risks related to cyclonic and volcanic activities in the region, associated earthquake exposure, tsunamis as well as extreme precipitation and flooding. Project design incorporates resiliency measures to address extreme wind, precipitation and flooding risks, such as those experienced during TC Pam. This will form part of the final engineering solutions for all public sector assets rebuilt, rehabilitated, retrofitted or improved under the project.

VI. APPRAISAL SUMMARY

A. Economic and Financial Analysis

66. The project's main development impact will be to provide more reliable access to markets and social services for the project communities, and to restore schools and public buildings damaged by TC Pam. Some of the schools to be reconstructed under the project will also serve as evacuation centers during extreme weather events. The World Bank's partnership with GoV is the most appropriate vehicle for delivering this support, as the assets to be reconstructed are spread over numerous islands and the cost is beyond GoV's ability to finance. The Bank will add value by providing specialized expertise to ensure that the investments are carried out to the highest quality.

67. Roads. Road transportation is vital for much of the population in the worst affected islands to provide access to markets (to sell agricultural produce and to purchase of essentials, such as food, medicinal and educational supplies) and social services, e.g., schools and hospitals.

68. The quantification of the benefits of these interventions using traditional methods (based on traffic volumes, time saved, vehicle operating costs, etc.) is inappropriate in the context of VIRIP road investments, as these interventions are essential for avoiding poverty and deterioration of social outcomes. Road interventions will therefore be assessed based on cost-effectiveness, i.e., through the use of appropriate design standards, competitive pricing of contracts, and ensuring the quality of construction through proper supervision. Outcomes to be considered include the number of beneficiaries and poverty levels, access to essential services (clinics, hospitals, schools, etc.,) and economic activities (markets, airstrips, wharfs, etc.,) served by a reconstructed or improved asset. These assessments will be carried out during implementation, when the specific investments are identified.

69. Education. Poor infrastructure had been explicitly identified as a constraint to enrolment and student achievement in Vanuatu.[12] The "catastrophic" impact of TC Pam on Vanuatu's education infrastructure implies particularly large marginal returns to investment in school infrastructure now.[13] Given the challenges in quantifying the many appreciable

[12] DFAT, 2012, p 13.
[13] PDNA, 2015, p 45.

benefits associated with educational outcomes, interpreting the economic rationale for the investment through a cost-effectiveness perspective is preferred.[14]

School Reconstruction and Improvement: Cost-effectiveness

School level	Primary		Junior secondary	
Average enrollment (students per school)	124		170	
Years to complete education	6		4	
Average infrastructure damage (% classrooms per school)	59%		41%	
	Vatu	US$	Vatu	US$
Average cost reconstruction works per school	32,670,000	$300,000	81,675,000	$750,000
Assumed life of asset (years)	25		25	
Cost-effectiveness: Cost per student-year	10,566	$97	19,218	$176
Cost-effectiveness: Cost per student education	63,397	$582	76,871	$706

69. The target schools for reconstruction and improvement under the project will be identified by MoET. Schools with the most extensive damage following TC Pam will be given the highest priority (unless they are assessed as unviable, consistent with MoET's broader education sector strategy) and will facilitate the greatest improvement in educational outcomes per student. MoET will assist in coordinating the multiple international development partners who have committed to undertaking construction work in the education sector. As a result, the project is expected to realize efficiency gains through concentrating school reconstruction efforts on a limited number of islands.[15]

B. Technical

70. Works expected to be constructed under VIRIP are conventional, and fall into three categories:

a) Small-scale spot improvements to road assets. These would be simple but robust, generally small-scale, concrete and/or masonry structures in the form of drifts (ford crossings), lined drains, culverts and headwalls, and surfacing on steep grades. Standardized engineering designs and drawings would be used, but adapted to suit local topography. Construction would be done by island based contractors specifically trained in these types of works.

b) Larger-scale improvements to roads. These might include seawalls to protect coastal road sections, longer vented drifts (Irish crossings) across rivers, embankments over low-lying flood plains, or rehabilitation of lengths of road, including asphalting. All proposed sub-projects would be the subject of prior engineering field investigations and detailed engineering design to suit local conditions using available construction materials,

[14] Belli, P., Anderson, J., Barnum, H., Dixon, J., Tan, J. (1998), *Handbook on Economic Analysis of Investment Operations*, World Bank, p 64.

[15] International Initiative for Impact Evaluation [3ie] (2013), *Quality Education for all Children? What works in education in developing countries*, Working Paper No. 20

generally concrete, masonry or rock fill. Construction would be by national contractors who have good experience in these types of works.

c) Reconstruction, repair and retrofit of existing school and public buildings. New buildings are expected to be single story structures, designed to comply with Category 5 cyclone wind loading and relevant local building standards. Building design and material selection will also take into account relevant local hazards to minimize ongoing maintenance requirements for infrastructure. All buildings to be retrofitted would be inspected by qualified structural engineers to determine the best approach to reconstructing the building to higher structural safety standards (typically new or replacement roof and framing timber, steel tie-downs and strapping). Due to the challenge of cost effectively ensuring compliance with relevant design standards for existing structures, retrofitted buildings would demonstrate "significantly improved" structural capacity, where all new retrofitted elements comply with requirements of these design standards. Construction would be carried out by experienced national or international contractors and would utilize local labor as much as possible.

71. All works would be supervised by trained inspectors and qualified engineers, and final acceptance and handover to GoV would be subject to defects liability periods.

C. Financial Management

72. The financial management assessment of project implementation arrangements has identified MIPU's limited experience with World Bank projects as the principal risk. The following measures will be taken to mitigate this risk: VIRIP will finance a project accountant to join PST to ensure that the project's financial management arrangements satisfy the Bank's requirements, as stipulated in Operational Policy/Bank Procedure (OP/BP) 10.00; financial management procedures will be detailed in the Project Operations Manual (POM); and training in matters of financial management will be provided on an ongoing basis as part of the World Bank's interaction with PST and counterpart staff, and through regular supervision missions during implementation.

D. Procurement

73. The Bank's procurement capacity and risk assessment of the project identified MIPU's lack of experience with Bank procurement policies and procedures and limited staff as the principal risks. It was agreed that: under instructions of MIPU the PST will carry out procurement for all activities under VIRIP, with assistance from consultants; Bank Procurement and Consulting Guidelines will be disseminated to concerned agencies early during implementation; a detailed procurement manual is included in the POM; procurement training will be provided to MIPU staff; use of IBCs would be encouraged; and contracts would be packaged commensurate with the capacity of contractors, especially for islands without IBCs. All procurement will be carried out in accordance with the World Bank Procurement and Consulting Guidelines, as well as related regional guidance. Details of procurement arrangements are in Annex 3.

E. Social (including Safeguards)

74. VIRIP is expected to have positive social benefits, especially for those most vulnerable to natural hazards. To the extent possible, all assets, including road sector assets, schools, public buildings, and associated structures will be reconstructed and/or improved within their existing boundaries. Limited land acquisition and/or minor land impacts may, however, become necessary during implementation. In view of this, Bank OP4.12 Involuntary Resettlement has been triggered. Land is expected to be voluntarily granted to the project based on the Voluntary Land Donation Protocol defined in the ESMF, based on meaningful consultations and citizen engagement. Where resources such as sand or aggregates are required, consultation with resource owners would be undertaken before payment arrangements are made.

75. Based on an assessment carried out in 2013 by the World Bank, OP 4.10 Indigenous Peoples (IP) indicates that four defining characteristics should be present to trigger the IP policy and these characteristics are not present in Vanuatu. Accordingly, the policy is not triggered for the project. However, given the strong community-driven nature of the works both in the education and road sectors, extensive consultation and citizen engagement will be carried out. This is a typical approach to community-based work and encourages and facilitates effective implementation. The approach MoET and PWD will take is to engage with all people in the communities, through traditional methods such as *nakamals* (where all villagers attend). An analysis of social baseline data and information from engagement during project planning will help inform the prioritization of sub-projects and therefore help demonstrate achievement of the PDO.

76. To the extent possible, all assets, including road sector assets, schools, public buildings, and associated structures, will be reconstructed and/or improved within their existing boundaries. There is the potential that small amounts of new land area may be required during implementation. This may be as a result of realigning the footprint of infrastructure, or it may be for access to sand and/or aggregates, or for the disposal of waste. Any such land would be negotiated and either voluntarily granted to the project based on the Voluntary land Donation Protocol defined in the ESMF, or a lease would be arranged. Such a process would be subsequent to meaningful consultations and citizen engagement processes. Where this process was not successful, and the project could not be forfeited, then the involuntary resettlement processes would be used under the Resettlement Policy Framework.

77. Community-based labor is very typical in the remote villages in Vanuatu. It is the villagers' way of contributing to community development, in partnership with the relevant government ministries. It is anticipated that communities will donate labor on many road and school projects in this way. Consultation with communities during project identification and design will be undertaken to confirm the type of work that is required, whether labor will be available, what training is required, and the most appropriate timing for the work to fit around other *nakamal*, work and family commitments. Women and men will be equally involved in the consultations and opportunities to contribute. Occupational health and safety training and equipment will be required alongside any technical training.

F. Gender

78. The PDNA notes that women, youth, and persons with disabilities were disproportionately impacted by TC Pam. Widespread gender inequality and discrimination against women and girls placed them at a disadvantage before the disaster hit. Due to established gender roles, in post-disaster context, women carry a disproportionate burden of the household responsibilities after a disaster. Women and girls are also likely to face an increased risk to adverse health effects from reduced sanitation and an increased vulnerability to violence, their livelihoods sources suffer, with negative coping strategies affecting access to education, medicines, or nutrition. The safeguards instruments, POM, technical designs, and capacity-building for project implementation agencies, contractors and communities will include specific actions to mitigate specific gender-related risks and concerns, and utilize opportunities for ensuring the well-being and equal opportunities of men and women to benefit from the project investments. Having regard to cultural consideration and sensitivities, provisions will be made for equal opportunities for capacity-building, contracting, equal payment, as well as decision-making to the extend appropriate. Separate sessions for women and men will be part of the consultation processes. The project operations manual will include guidance to ensure that women are represented in decision-making, and community participation officers and community partnership officers are trained to effectively engage women in reconstruction activities. Reconstructed infrastructure, such as schools or public buildings, will provide adequate sanitation facilities for women, girls and for persons with disabilities, taking into account safety and emergency considerations.

79. Based on past World Bank post-disaster activities in Pacific Island Countries, there is a need for a local champion who would be aware of gender issues and able to facilitate knowledge dissemination, particularly in regards to capacity-building. To raise awareness of gender issues and promote an inclusive approach to reconstruction, the project will work closely with GoV and other stakeholders.

G. Environment (including Safeguards)

80. A screening of the proposed types of investments (in accordance with OP4.01 Environmental Assessment) has identified likely potential impacts from: (i) managing construction and demolition waste, including the risk of asbestos-containing materials; (ii) sourcing sand and gravel for construction; (iii) vegetation clearance and sediment discharge from earthworks; and (iv) cement discharges to waterways and coastal areas from concrete formwork. Asbestos could be widespread. Generally waste in villages is either reused or dumped in a local pit. Much of the building debris from TC Pam has been salvaged for reuse. Licensed quarries for sand and gravel are located on some of the islands, but for many small-scale activities, informal beach mining and terrestrial sources of aggregate are used (despite environmental permits and mining licenses being required).

81. Significant impacts from reconstructing infrastructure that should be avoided or mitigated during design include: (i) exacerbating flooding and coastal erosion, or otherwise modifying waterways and the foreshore; and (ii) affecting breeding or feeding grounds or migratory routes.

82. Because specific types of investments and their locations are unknown, the ESMF has been prepared as the safeguard instrument. The ESMF guides the investments by screening out Category A activities (activities with large scale, irreversible or significant impacts), and projects that are not consistent with the Bank's safeguards policies. Category A projects are unlikely, but in any case are not eligible for funding because the scale of assessment and mitigation required will divert resources from lower risk / higher benefit projects and reduce the efficacy of the PDO. The ESMF also provides a screening process to determine the need for project-specific environmental management plans (EMP) for any project and/or environmental permits under the Environmental Protection and Conservation Act, and provides standard mitigation measures for likely potential impacts, including those listed above.

83. Licensed quarries will be used. Where it is not possible to source sand or gravel from existing licensed quarries, then environmental screening will be undertaken to ensure potential impacts from local sources are avoided or mitigated and licenses and permits will be obtained from the Department of Geology and Mines and the Department of Environmental Protection and Conservation, before works begin. The ESMF contains a Waste Protocol that follows the waste hierarchy, and an Asbestos Protocol for managing and disposing of the hazardous waste.

84. Physical cultural resources (PCR) (regarding OP4.11) and natural habitats (regarding OP4.04) are unlikely to be found in the existing alignments/footprints of infrastructure that will be reconstructed. However, they may be encountered when footprints are expanded or realigned, or for ancillary sites such as where aggregates are sourced. The ESMF provides checklists and procedures for identifying PCR and natural habitats and avoiding or mitigating possible impacts. Sub-projects that are inconsistent with either policy would be screened out of selection for funding.

85. The ESMF which includes the RPF were disclosed on the Government's official website on April 8, 2016 (http:\gov.vu/virip) and were subject to consultations with relevant government Ministries during a workshop in Port Vila on the same day. The same documents were published on the Bank's external website on April 11, 2016. Because the exact location of investments is not known, site specific consultation could not be undertaken. Issues that were raised during the discussions included ensuring Provincial and Area Councils were involved in project planning, using Community Participation and Community Partnership Officers to assist with community engagement during project planning and implementation, and ensuring the national laws, including the Environmental Protection and Conservation Act, are complied with throughout the project. PWD and MOET have systems in place to engage the community on any proposed projects, and the ESMF has been strengthened to show this.

H. World Bank Grievance Redress

86. Communities and individuals who believe that they are adversely affected by a World Bank (WB) supported project may submit complaints to existing project-level

grievance redress mechanisms or the WB's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project-affected communities and individuals may submit their complaint to the WB's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate Grievance Redress Service (GRS), please visit http://www.worldbank.org/GRS. For information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org.

Annex 1: Results Framework and Monitoring
Vanuatu: Infrastructure Reconstruction and Improvement Project

Project Development Objectives

PDO Statement: The project development objective is to reconstruct and/or improve the disaster and climate resilience of selected public sector assets in provinces impacted by Tropical Cyclone Pam, and to provide immediate and effective response to an Eligible Crisis or Emergency.

These results are at: Project Level

Project Development Objective Indicators

Indicator Name	Baseline		Cumulative Target Values (FY)				
		YR1	YR2	YR3	YR4	YR5	End Target
Population on project islands with improved road and pedestrian access (number, with sub-indicator of breakdown of and percentage of women/men).	0	2,000 w-50% m-50%	5,000 w-50% m-50%	9,000 w-50% m-50%	11,500 w-50% m-50%	14,000 w-50% m-50%	14,000 w-50% m-50%
Number of users/beneficiaries of schools reconstructed and upgraded to higher structural safety standards (number, with sub-indicator of breakdown of percentage of women/men).	0	0 w-50% m-50%	1,500 w-50% m-50%	3,000 w-50% m-50%	3,750 w-50% m-50%	4,600 w-50% m-50%	4,600 w-50% m-50%

Intermediate Results Indicators

Indicator Name	Baseline		Cumulative Target Values				
		YR1	YR2	YR3	YR4	YR5	End Target
Road assets reconstructed or improved (number).	0	20	50	100	175	250	250
Schools reconstructed to higher structural safety standards.	0	5	15	25	35	40	40
Public buildings impacted by TC Pam reconstructed to be more resilient.	0	3	7	10	15	20	20
Number of accredited IBCs able to construct assets/buildings to higher structural standards that are	0	3 contracts signed	7 contracts signed	10 contracts signed	15 contracts signed	20 contracts signed	20 contracts completed

more climate resilient (text).							
Work days created for local contractors	0	2,000	8,000	12,000	15,000	18,000	18,000
Percentage of beneficiaries that feel project investments reflected their needs (percent, with breakdown of percentage for men/women).	0	50% w-50% m-50%	65% w-50% m-50%	75% w-50% m-50%	85% w-50% m-50%	95% w-50% m-50%	95% w-50% m-50%
Percentage of registered grievances appropriately responded within two weeks (percent, with breakdown of percentage for men/women).	0	50% w-50% m-50%	65% w-50% m-50%	75% w-50% m-50%	85% w-50% m-50%	95% w-50% m-50%	95% w-50% m-50%

Indicator Description

Project Development Objective Indicators

Indicator Name	Description (indicator definition etc.)	Frequency	Data Source / Methodology	Responsibility for Data Collection
Population on project islands with improved road and pedestrian access (number, and percentage of women/men).	Population, disaggregated by gender, living within two km of an improved road assets (cumulative). • Since it is not possible to identify all islands where improvements will be made, population estimates are based on the collective population of the four project provinces (133,843). It is further estimated that 85 percent of inhabitants live within 2 km of a road (113,767 people) in the project provinces. • The known rural road network for each province is: Malampa 407 km; Penama 355 km; Shefa 356 km and Tafea 343, for a project total of 1,461. • It is assumed that an average of 156 people live within the two km catchment areas.	Bi-Annually	PST & consultant reports	MIPU
Number of users/beneficiaries of schools reconstructed and	Number of primary and secondary students, disaggregated by gender, with access to school facilities constructed to higher	Bi-Annually	PST & consultant reports	MIPU

upgraded to higher structural safety standards (number, and percentage of women/men).	structural standards based on enrollment figures as of January 31, 2015 (8,750), and is cumulative over time. An average of 114 students per school is assumed, at an average cost of $300,000 per school will lead to 40 improved schools, which equates to about 4,600 students in total. In the event of another disaster, these schools would serve some 20,000 community members in providing adequate/disaster resilient emergency shelters. Higher structural standards for school facilities are defined as those that have been certified to comply with MoET designs and standards.			
Intermediate Results Indicators				
Indicator Name	Description (indicator definition etc.)	Frequency	Data Source / Methodology	Responsibility for Data Collection
Road assets reconstructed or improved (number).	Number of project-related road and pedestrian structures that are reconstructed or improved (cumulative).	Bi-Annually	PST & consultant reports	MIPU
Schools reconstructed to higher structural safety standards.	Number of project-related schools that are reconstructed or improved (cumulative).	Bi-Annually	PST & consultant reports	MIPU
Public buildings impacted by TC Pam reconstructed to be more resilienct.	Number of project-related public buildings that are reconstructed or improved (cumulative).	Bi-Annually	PST & consultant reports	MIPU
Number of accredited IBCs able to construct assets/buildings to higher structural standards that are more climate resilient (text).	Relates to the number of local contractors' staff and site inspectors (IBCs and community groups) that are trained to build project structures and buildings to higher structural standards that are more climate resilient (cumulative).	Bi-Annually	PST & consultant reports	MIPU
Work days created for local contractors (number, disaggregated by men and women).	Relates to the number of days recorded by local contractors in their muster rolls, which is estimated to be 200 working days per structure multiplied by an average of three structures per contract (cumulative).	Bi-Annually	PST & consultant reports	MIPU
Percentage of beneficiaries that feel project investments reflected their needs (percent).	Based on interviews with beneficiaries about the relevance of improvement meeting their needs.	Bi-Annually	PST & consultant reports	MIPU
Percentage of registered grievances appropriately	For grievances that are registered during implementation, the percentage that are answered within two weeks of receipt of a	Bi-Annually	PST & consultant reports	MIPU

responded within two weeks.	grievance.			

Annex 2: Detailed Project Description

Vanuatu: Infrastructure Reconstruction and Improvement Project

1. Between March 12 and 14, 2015, Tropical Cyclone Pam (TC Pam) struck 22 islands of Vanuatu as an extremely destructive category 5 cyclone. The total economic damage and losses as a result of the cyclone were estimated to be approximately US$450 million, which equates to approximately 64 percent of the country's GDP. Shefa and Tafea were the worst affected provinces, in particular on the larger islands of Tanna, Erromango and Efate and the smaller Shepard islands. Eleven fatalities were recorded in Tafea and Shefa province. As many as 65,000 people were displaced from their homes, around 17,000 buildings were damaged or destroyed, and the livelihoods of at least 80 percent of Vanuatu's rural population were compromised due to large scale destruction of crops. Losses from TC Pam reduced GDP growth substantially relative to the 2015 pre-cyclone forecast, despite the partial offset provided by post-cyclone recovery activities. Most estimates suggest that growth in 2015 was zero or slightly negative.

2. In the wake of TC Pam, the Government of Vanuatu (GoV) officially declared a state of emergency for Shefa Province on March 15, 2015. Emergency response efforts were led by the Government with the support of multiple humanitarian partners, international and national non-governmental organizations, foreign governments, and donors. GoV undertook a Post-Disaster Needs Assessment (PDNA) with the support of the World Bank and other development partners, which formed the basis of the National Recovery and Economic Strengthening Program (NRESP) to guide the recovery and reconstruction of all sectors affected by TC Pam. Recovery and reconstruction costs are estimated at US$316 million.

3. VIRIP will support Vanuatu's recovery efforts post TC Pam with the following development objective: to reconstruct and/or improve the disaster and climate resilience of selected public sector assets in provinces impacted by Tropical Cyclone Pam, and in the event of an eligible crisis or emergency, to provide immediate and effective response in such eligible crisis or emergency. VIRIP comprises five components: road reconstruction and improvement; school reconstruction and improvement; public building reconstruction and improvement; project implementation and technical support; and contingency emergency response. The table below summarizes the estimated project costs by component and sub-component. The components are described in the subsequent paragraphs. The entire project will be financed by the IDA Credit Response Window, 50 percent as a Credit and 50 percent as a Grant.

Estimated Project Costs
(US$ million)

Component	Project Cost
1. Road Reconstruction & Improvement	*26.00*
1.1 Road Sector Assets	24.00
1.2 Design & Supervision	2.00

2. School Reconstruction & Improvement	*13.00*
2.1 Schools /a	12.00
2.2 Design & Supervision	1.00
3. Public Building Reconstruction & Improvement	*6.50*
3.1 Public Buildings /b	6.00
3.2 Design & Supervision	0.50
4. Project Implementation & Technical Support	*4.50*
4.1 Project Implementation	
4.1.1 Project Staffing /c	3.25
4.1.2 Project Vehicles /d	0.20
4.1.3 Project Operating Costs /e	0.50
4.1.4 Annual Project Audits	0.05
4.2 Technical Support	
4.2.1 Sustainable Maintenance	0.25
4.2.2 Training & Capacity Building	0.25
5. Contingency Emergency Response	*0.00*
Totals:	**50.00**

NOTES:

a/ Average cost of US$ 300,000 per school is assumed. Average construction costs per school are derived from detailed cost-estimates produced by MoET for reconstructing schools in Tafea.

b/ Average cost of US$ 300,000 is assumed per public building.

c/ PST staff consists of a Project Manager, Procurement Specialist, Project Accountant and Safeguards Specialist and are estimated to cost 6.5 percent of the overall project amount.

d/ A total of 25 "quads" for road sector improvements on six islands at US$ 8,000 each, or a total of US$ 200,000.

e/ Operating costs will include limited office renovation, rent, power, communications, and vehicle maintenance for PST and provincial PWDs are estimated at US$ 10,000 p.a.

f/ Design and supervision assumed to be 8.3 percent of construction costs.

4. **Component 1: Road Reconstruction & Improvement (estimated US$ 26.00 million).** This component would fund a range of roads works in provinces of Vanuatu that were affected by TC Pam to undertake spot improvements to road assets, such as small road structures and footpaths, and to improve the resilience of road assets. In addition, road assets that were not impacted by TC Pam can be built to more resilient standards to better withstand future extreme weather events.

5. **Sub-Component 1.1: Improvement of Road Sector Assets (US$ 24.00 million)**. With few exceptions, rural roads in Vanuatu are generally in poor condition and are not passable throughout the year. Few, if any, rural roads are engineered, and most are little more than tracks without gravel. Coastal roads are prone to flooding, bogging and storm surge, while inland roads have steep gradients with minimal or no drainage. All roads are vulnerable to landslips due to unstable soils. This sub-component would fund spot improvements to existing roads (and in some remote locations), walking tracks, on several islands to repair cyclone damage and improve year-round accessibility to and for rural communities.

a) Cyclone Damage. Although cyclone damage to roads was generally limited to washing out of bridge approaches and culverts due to excessive rainfall, there were also instances of severe, localized damage to exposed coastal roads and embankments from storm surges. Works would fund embankment repairs and strengthening seawalls in the form of rockfill revetments and masonry or gabion retaining walls.
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b) Rural Access Improvements. The types of road sector assets to be improved would typically be small structures in the form of drainage structures, including drifts and/or vented drifts on water crossings, pipe culverts, lined drains, or low-maintenance surfacing on steep grades in the form of concrete pavements or concrete "tire paths." Funding would also be used for embankments across low-lying floodplains. In remote areas with no roads, walking tracks would be improved at critical locations with concrete steps or surfacing on steep grades and simple pedestrian bridges over water crossings.

6. Island-Based Contracting for Small Works. MIPU is currently implementing the second phase of its Roads for Development (R4D) program, which is funded by the Australian Government and support IBCs with limited plant and resources to carry out small, low maintenance, reinforced concrete and masonry works on rural roads on four islands. There are between seven and ten IBCs on each island. Works carried out by the IBCs are generally closed or vented drifts at water crossings, pipe culverts with inlet and outlet structures, and surfacing over full or partial road width with lined side drains on steep gradients, all based on standard designs. R4D contracts are awarded in six-monthly rounds (or "cycles") and are all less than Vatu 5 million (approximately US$ 50,000).

7. Under VIRIP, a modality that closely mirrors the R4D model, but integrated into the local PWD structure, would be implemented on six or more islands in the four cyclone-affected provinces of Malampa, Penama, Shefa and Tafea. MIPU would select the islands where works would be carried out and employ existing IBCs trained under R4D on islands where the program is established. MIPU would also expand the framework to other islands, and include walking track improvements in remote areas. Prioritization of interventions will be based on a ranking process[16] using agreed transparent criteria involving rural access indicators and levels-of-service for potential improvements, and draw from PWD Divisional Annual Work Plans prepared by PWD's six provisional offices.

8. National Competitive Bidding for Larger Works. Repair of coastal road embankments would likely require large plant to transport and place rock revetments and other types of strengthening and resilience-enhancement measures. Similarly, drifts across larger water crossings and vented drifts (Irish crossings) across rivers, rock embankments across low-lying flood plains, or rehabilitation of lengths of road, including asphalting, would be more suited to mechanised construction methods. Prioritization of interventions would be based on PWD Divisional Annual Work Plans using the same criteria as that for IBCs carrying out smaller works. Larger works would be packaged to make them attractive to national contractors.

[16] PWD recently introduced a Road Prioritization Tool for its 2016 budget planning.

9. **Sub-Component 1.2: Design & Supervision (US$ 2.00 million)**. Funds would be utilized to design and supervise works to be carried out under Component 1 by contracting consultants[17] to design and/or supervise all road sector improvements, as follows:

> Engineering Design & Bid Documentation. While small-scale road assets would generally follow standardized designs, professional civil engineering design expertise would be required for scoping, field investigations, detailed design, and preparation of drawings, specifications and bills of quantities for larger coastal road protection and/or embankment strengthening, river crossings and flood plain embankments. Consultants would be engaged for specific design inputs if these skills are unavailable within PWD.
>
> Construction Supervision and Contract Administration. Supervising engineers would be responsible for overseeing all aspects of construction works with the support of site inspectors, and administering contracts on behalf of MIPU/PWD. For larger-scale road contracts, the engineers would fulfil a conventional project manager's role, while for small-scale road asset interventions, supervising engineers would also be responsible for adapting the standard designs and scoping the works for bidding purposes, assisting PWD to procure island-based contracts, and providing oversight of construction and contract administration. All supervising engineers would be expected to mentor the locally employed and trained site inspectors.

10. **Component 2: School Reconstruction & Improvement (US$ 13.00 million).** MoET has assessed the extent of damage from TC Pam to more than 70 primary and secondary schools in cyclone affected areas, and has estimated repair costs. Schools received massive damage, mostly in the form of full or partial roof loss, but several buildings were completely demolished. The extent of damage to schools was directly correlated to the quality of construction, with well-constructed buildings that used quality materials and workmanship generally withstanding the impact of TC Pam. Many schools served as community shelters during the cyclone, and evacuation centres for weeks thereafter for families whose homes had been destroyed. The failure of some buildings being used as shelters was deeply traumatic, and in one case fatal, consequences.

11. **Sub-Component 2.1: Schools (US$ 12.00 million)**. This sub-component would reconstruct classrooms and other school buildings damaged by TC Pam, and ensure that at least one building per school is located, designed and constructed to cyclone seismic resilient standards appropriate to the location and outside of tsunami and storm-surge inundation areas so that it can be used as an evacuation centre. Improved water supply and sanitation facilities and other amenities would also be built to enable one school structure to serve as an evacuation center.

12. Measures to strengthen the resilience (or build-back-better) of schools that were not impacted by TC Pam are also eligible for funding under the project.

[17] It is expected that works would be designed and supervised by separate consultants to avoid conflict of interests

13. The reconstruction of school buildings would be based on MoET standard designs, and would maximise community involvement. All "evacuation center" certified buildings will be constructed using concrete blockwork/reinforced concrete sub-structures, and structural grade timber for roof structures. Ancillary buildings may be constructed with other materials, provided they meet relevant design standards and MoET performance and maintenance objectives. On islands with active volcanic activity, such as Tanna, cyclone strapping should be stainless steel and any bolts used should be hot dip galvanised to reduce corrosion in the aggressive atmosphere.

14. The types of treatment are expected to be as follows:

a) New Structures. These might be classrooms, offices or staff housing that would be constructed from scratch. Existing buildings and structures would either be replaced or demolished, in order to meet MoET requirements.

b) Partial Reconstruction. Buildings that were partly destroyed, typically above the ring beam level, but which are assessed as structurally sound, would be reconstructed to an agreed cyclone-resilient design standard.

c) Retrofitting. Many buildings that were not seriously damaged urgently require retrofitting to replace roof sheeting or steel tie downs that are corroded, and roof timbers that are cracked or rotten. In addition, roof nails should be replaced with cyclone screws.

d) Water Supply and Sanitation. Rainwater harvesting from roofs of reconstructed buildings will be maximized through collection and storage to facilitate an appropriate level of gender-separate toilet and hand washing facilities at reconstructed schools.

15. To expedite the reconstruction process it is anticipated that works would be conventionally contracted. However, contractors would be required to maximize opportunities to improve the skills of local builders, and create employment opportunities for the communities at each school.

16. **Sub-Component 2.2: Design & Supervision (US$1.00 million)**. Funds would be utilized to design and supervise works to be carried out under Component 2. It is expected that consultants would be contracted to design and/or supervise improvements to both schools and public buildings, as follows:

Engineering Design & Bid Documentation. Structural engineering design skills would be required to ensure that all new schools comply with national and/or international cyclone resilience standards. This would be achieved by detailed reviews of standardized design drawings and specifications to be used for reconstruction, and physical inspection, scoping and detailing of required works on existing buildings to be repaired or retrofitted. All buildings to be retrofitted would be inspected by qualified structural engineers to determine the best approach to reconstructing a building to higher structural safety standards (typically new or replacement roof and framing timber, steel tie-downs and

strapping). Due to the challenge of cost effectively ensuring code compliance for existing structures, retrofitted buildings would demonstrate "significantly improved" structural capacity, where all new retrofit elements comply with code requirements.

Construction Supervision and Contract Administration. Supervising engineers would be responsible for overseeing all aspects of construction works with the support of site inspectors, and administering contracts on behalf of MIPU/PWD. For larger-scale contracts, the engineers would fulfil a conventional project manager's role. All supervising engineers would be expected to mentor the locally employed and trained site inspectors.

17. **Component 3: Public Building Reconstruction & Improvement (US$6.50 million).** Several public buildings, provincial and national government offices, workshop and associated buildings on TC Pam-affected islands suffered serious damage with partial or total destruction of individual structures or groups of buildings.

18. **Sub-Component 3.1: Public Buildings (US$6.00 million).** This sub-component would fund the reconstruction of public buildings that were impacted by TC Pam, as well as to strengthen the resilience of selected public buildings that were not damaged by the Cyclone, through a prioritization and selection process to be developed by MIPU, agreed with the Bank, and endorsed by PRC. Damage to public buildings was similar to that of schools, with roofs and steel frames fully or partially destroyed, and roof timbers missing.

19. **Sub-Component 3.2: Design & Supervision (US$0.50 million)**. Funds would be utilized to design and supervise works to be carried out under Component 2. It is expected that consultants would be contracted to design and/or supervise improvements to both schools and public buildings, indicated for Sub-component 2.2.

20. **Component 4: Project Implementation & Technical Support (estimated US$ 4.50 million)**. Carrying out a program of activities designed to enhance the capacity of the Recipient for Project management, implementation, coordination, monitoring and evaluation of the Project, such program to include the establishment and maintenance of a Project support team

21. **Sub-Component 4.1: Project Implementation Support (estimated US$ 4.00 million).** VIRIP funds would also be used to hire individual specialists to support project implementation. A Project Support Team (PST) would be established within MIPU, with terms of reference acceptable to the Bank, to assist in managing VIRIP, and ensure that the Bank's fiduciary, safeguards and reporting requirements, including monitoring and evaluation, are met throughout the implementation period. Key staff will include a qualified project manager, a procurement specialist, a project accountant, and a safeguards specialist. In addition, it is anticipated that inputs from technical specialists, such as communication/community liaison, monitoring and evaluation specialists, or sectoral specialists, will be required from time-to-time. While other design and supervision consultants will be responsible for providing key technical inputs for bidding and evaluation processes (see Sub-component 2.1), PST staff will be responsible for finalizing bid documents prior to inviting bids. MIPU will be responsible for finalizing the evaluation and award process, in liaison with the Tenders Board.

22. Operating costs, including for office refurbishment/renovation, rent, power, communications, and vehicle maintenance for PST and provincial PWDs, will also be financed under VIRIP, as will annual project audits.

23. **Sub-Component 4.2: Sustainable Maintenance (US$ 0.25 million).** The rural road network of Vanuatu, which is in excess of 2,100 km, has suffered from chronic lack of preventative and periodic maintenance due to lack of available funding, which has resulted in the majority of the network remaining unmaintained and in very poor condition. There is a clear and urgent need to address this problem, not only to improve the condition of the network, and therefore accessibility for the rural population of Vanuatu, but also to protect and sustain investments that the Government and donors make on improving road assets. VIRIP funding would be utilized to engage individual consultants to advance two existing initiatives to develop a more sustainable road maintenance regime.

a) Road Maintenance Fund. The possibility of establishing a road maintenance fund has been under consideration since 2011[18], and it is understood to have the support of MIPU and GoV, in principle. Technical support will be provided to support this initiative by assessing whether new legislation is required or preferred to establish a road fund (in which case a draft road fund act will need to be prepared). An analysis of fuel projections would be carried out to determine revenues generated by road user charges in 10 years to 20 years, and would include consultations with stakeholders in the public and private sectors.

   The assessment will also consider how the road fund could be integrated with existing (and any future) institutional arrangements, and how planning and implementation arrangements for using road fund proceeds could be aligned with existing GoV procurement and procedures. Rules and regulations of the road fund and the road fund board would be drafted for further discussion.

b) Outsourcing Road Maintenance. Traditionally, PWD carried out routine and periodic maintenance through force account.[19] Although roadside maintenance is now procured through community contracting (where funding allows), and some small spot improvements are carried out by island based contractors through donor funding, most routine and periodic maintenance is still done with the PWD's own heavy equipment. However, the age of this equipment combined with the lack of funding for fuel and spare parts results in extremely low productivity and limited output.[20]

c) There is an urgent need to develop an outsourcing policy for road maintenance. Funding would be provided for an updated analysis of the opportunities and policy requirements to move from force account maintenance to a modality of outsourced

[18] Achieving Sustainable Maintenance: Establishing a Road Fund - A Paper for Discussion, GOV/AusAID, August 2011.

[19] Where PWD executed road works using its own plant, equipment and labor force.

[20] Encouraging Private Sector Development in the Roads Sector of Pacific Island Counties: Final Report (Vanuatu), PRIF/World Bank, March 2013.

contracting. The study would include extensive consultation and provide a step-by-step process to assist MIPU/PWD in making the transition from force account to outsourcing.

d) Technical support could be extended to include the development of action plans and/or assessments and recommendations to implement key legislation, such as the Public Roads Act, or to develop/revise the country's building code.

24. **Sub-Component 4.3: Training & Capacity Building (US$ 0.25 million).** Improvements to road assets would seek to expand the use of IBCs already identified, established and trained under the R4D program. It is expected that up to twenty new contractors would need to be engaged, as well as ten new site inspectors. This sub-component would fund the costs of specialist training in labor-based road construction and maintenance, and building construction, possibly in partnership with the International Labor Organization (ILO), to continue the process already established under R4D. This process involves working with the local communities (*nakamals*), to advertise for interested parties, the selection of individuals, and classroom and on-the-job training.

25. Funding would also be used to provide refresher training for existing IBCs and site inspectors on islands targeted for inclusion in this project, and specific training on construction costing and bidding.

26. Training and capacity building in the education sector is expected to be partially delivered through a "managing contractor" arrangement under Sub-component 2.2. Training courses implemented in conjunction with the reconstruction program would be used to up-skill the local construction workforce and reinforce the importance of strong connections to ensure strong buildings. An accelerated program for "training of trainers" could be considered to assist experienced Ni-Vanuatu tradespeople to train and manage teams of local workers. Quality control of materials used in the reconstruction program could be ensured through a centralized procurement process.

27. Funds would be used to develop a training and capacity building program on school infrastructure management. Because decision-making processes and the allocation of school funds lie directly with schools, efforts would focus on training school councils, principals and teachers about the benefits of regular preventative maintenance of schools and associated buildings. Improved maintenance of existing structures would help to protect the existing building stock and reduce its vulnerability to natural hazards. Developing maintenance manuals, complemented by training programs, would reinforce the importance of regular maintenance.

28. **Component 5: Contingency Emergency Response (estimated US$ 0.00 million).** This zero-cost component would support preparedness and rapid response to eligible disasters, emergencies, and/or catastrophic events, if needed. Following the declaration of a disaster or state of emergency, it would allow the reallocation of credit and grant proceeds from VIRIP components under streamlined procurement and disbursement procedures, or a mechanism to channel additional funds, should they become available. The Contingency Emergency Response Component (CERC) will serve as a contingent window, and provide a mechanism: (i) for quick

disbursements to meet the immediate liquidity needs to finance critical imports; or (ii) to finance emergency repairs and reconstruction works and associated services of public infrastructure.

29. The CERC will establish ex-ante mechanisms by which the GoV can rapidly begin to fund post-disaster needs following a disaster event. This will be done through the allocation and/or reallocation of project financing for eligible critical imports and/or for eligible emergency works, goods or services, such as the rehabilitation of critical infrastructure. By including a CERC, Vanuatu benefits from having near immediate access to funds that will have the ability to partially finance recovery and reconstruction needs following a disaster event. This eliminates the need to go through a World Bank process of restructuring the Project, should funding be needed to respond to post-disaster priorities.

30. Following the triggering of the agreed disbursement condition, CERC would be implemented in accordance with the rapid response procedures governed by the World Bank OP/BP 8.0 *Rapid Response to Crises and Emergencies*. A disbursement condition in the financing agreement defines the circumstances under which CERC funds would become available to GoV.

31. The specific details of the proposed implementation arrangements and procedures governing the use of CERC funds will be detailed in a stand-alone CERC annex within the POM. This annex will provide specifics related to the procedural steps for triggering and disbursing against the CERC, in accordance with: (i) National Systems (i.e., proclamation of a state of emergency or declaration of disaster; preparation of damage, loss and needs assessments; disaster response coordination); (ii) World Bank Policies and procedural requirements related to disbursement, procurement, financial management and safeguard compliance; and (iii) monitoring/evaluation and reporting arrangements. Following Project effectiveness, GoV will prepare and submit for preliminary approval an Action Plan of Activities framework, which will detail the implementation arrangements and procedures related to procurement, financial management, disbursement, safeguards, M&E and reporting of activities to be financed under CERC. This framework would then be adopted into the CERC Annex in the POM.

Annex 3: Implementation Arrangements

Vanuatu: Infrastructure Reconstruction and Improvement Project

Project Institutional and Implementation Arrangements

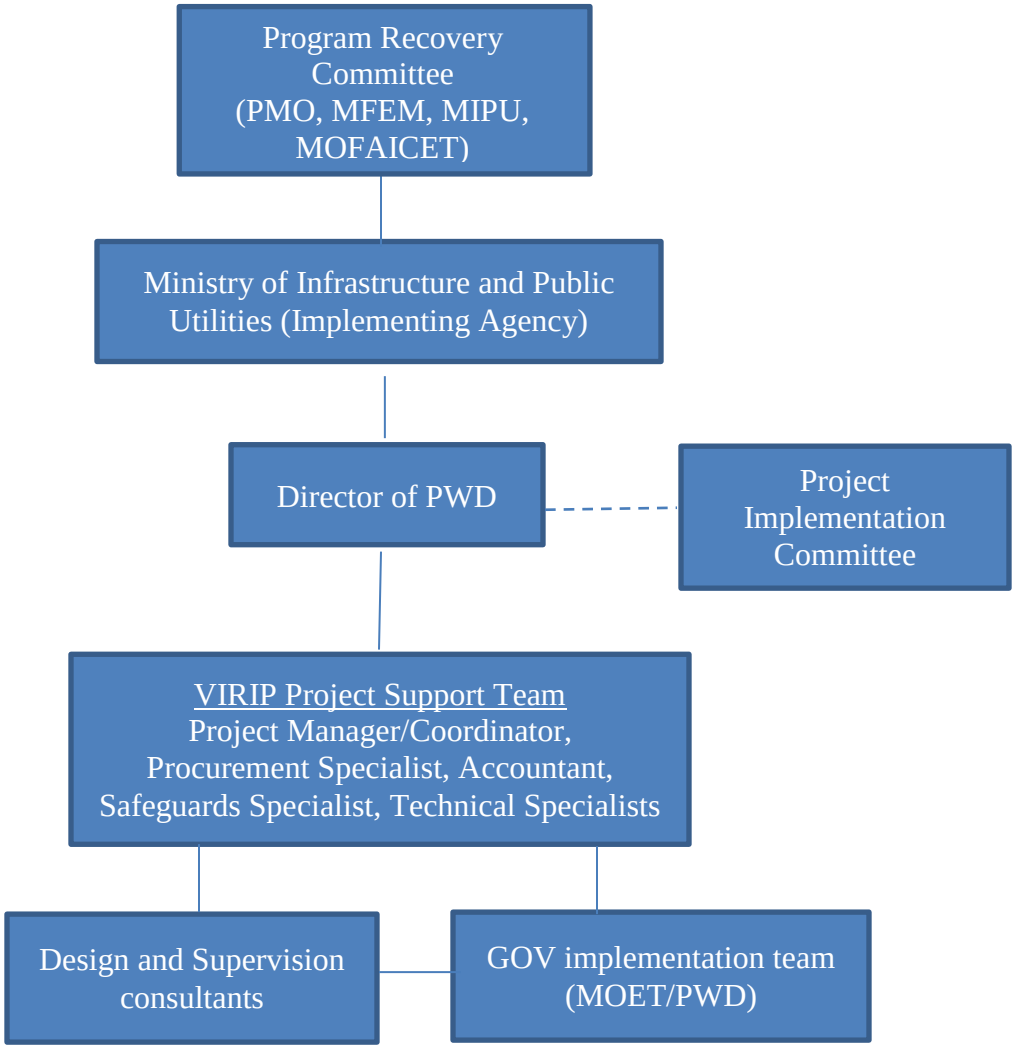
1. Government's Reconstruction and Recovery Program. The Program Recovery Committee (PRC) is responsible for overseeing and coordinating GoV's TC Pam reconstruction and recovery program. It is chaired by the Prime Minister's Office and has representatives from various ministries and government agencies. PRC reviews and approves proposals from the various sectors and line ministries in support of the recovery program. A Recovery Secretariat to the PRC and screens project proposals; it is also in charge of advocacy and external communications.

2. In accordance with the National Recovery and Economic Strengthening Program (NRESP), MIPU is the lead ministry responsible for coordinating the reconstruction, repair and upgrade of public assets and infrastructure.

3. Implementation Arrangements for VIRIP. The executing agency for VIRIP will be the Ministry of Finance and Economic Management (MFEM); MIPU will be the implementing agency. MIPU's Public Works Department will be delegated responsibility for delivering all aspects of VIRIP and for providing day-to-day direction for VIRIP. A Project Implementation Committee, chaired by PWD Director and with the participation of the Directors of Department of Strategic Planning, Policy and Aid Coordination (DSPPAC), MFEM, and MoET, has been established to serve as the Project Steering Committee providing overall oversight of the Project, including advice and proposing remedial actions on issues and concerns that could impact implementation. A Project Support Team (PST) will be established within PWD to support PWD and ensure that the project is implemented in accordance with Bank policies and procedures.

4. Existing PMUs within MIPU's Public Works Department and MoET are supporting the recovery of infrastructure assets in their respective sectors and would be responsible for: (i) inspecting and certifying that works are completed to standard to enable PST to release interim and final payments; (ii) ensuring that their Managing Contractors and Supervising Engineers are in compliance with the ESMF, including safeguard instruments, during sub-project identification, design and construction; and (iii) assisting PST with accounting and procurement, as needed.

5. The key entities involved in implementing VIRIP are shown in the following organization chart.



6. VIRIP Project Support Team. The PST is expected to comprise of four individuals with specialist expertise in project management, procurement, accounting and financial management, and safeguards. The PST, under the guidance of MIPU, would have responsibility for overseeing and managing all aspects of VIRIP's execution, including ensuring compliance with project requirements associated with: procurement; inspection and certification of works; financial management and auditing; safeguards, monitoring and evaluation; and project reporting. The PST would: oversee tenders; prepare procurement documents, advertisements, evaluations of bids and proposals; finalize and negotiate contracts for goods, works and services for signing by MIPU; arrange payments of suppliers, contractors and consultants; and prepare and submit withdrawal applications to the Bank. The PST would also maintain procurement files and records, and be responsible for ensuring that environmental permits from the Department of Environment are secured.

7. The PST would support the GOV implementation teams within MoET and PWD with contract management, and by providing specialists to work with technical counterparts in MoET and PWD to implement its respective activities under VIRIP. The PST's Project

Manager/Coordinator will report to the Director PWD, and serve as the principle working counterpart for the Bank.

8. MIPU is expected to contract supervising engineers to support overall execution and day-to-day implementation of project activities related to small-scale road transport, including overseeing all aspects of construction works, with the support of site inspectors (four per island), and administering contracts. Supervising engineers, with support from their PWD counterparts, would be responsible for: adapting standard designs and scoping the works for bidding purposes; assisting PWD to procure island-based contracts; providing oversight of construction and contract administration; certifying that works are done to standard; and releasing interim and final payments by PST. All supervising engineers would be expected to mentor locally employed and trained site inspectors. For larger-scale road assets and contracts for public buildings, the engineers would fulfil a conventional project manager's role in contract managing design and/or supervision consulting firms. Supervising engineers would also be responsible for incorporating the ESMF in designs and supervising the implementation of ESMF during construction.

9. With the support of MoET and PWD counterparts, PST would help oversee day-to-day implementation of VIRIP activities associated with schools and public buildings. Specifically, PST on behalf of MIPU would: (i) provide detailed review of standardized design drawings and specifications to be used for reconstruction, physical inspection, scoping and detailing of required works on existing buildings that may be repaired or retrofitted; (ii) oversee all aspects of construction works to ensure that all new, repaired and retrofitted facilities comply with national and/or international cyclone resilience standards; (iii) certify completion of works for the release of interim and final payments; (iv) undertake capacity building activities for local contractors to construct buildings and structures to higher structural safety standards; and (v) implement the ESMF during design and supervise the implementation of ESMF during construction.

10. PST's safeguards specialist will have an important role in implementation: (i) helping with consultations and baseline data collection with the relevant Ministries during project planning; (ii) screening proposed sub-projects from the safeguards perspective and confirming that they may be funded; (iii) providing training on ESMF procedures to the PMUs; (iv) addressing the potential for asbestos; (v) preparing environmental permit applications and EMP(s) for confirmed subprojects; (vi) monitoring works to ensure that the construction teams have the training and skills to comply with EMP and ESMF; and (vii) ensuring bid documents and contracts have requisite safeguards instrument(s) attached. The PST will also be actively engaged in supporting the resolution of grievances that have not been suitably resolved by the Chiefs, contractors, and/or supervising engineers.

Financial Management, Disbursements and Procurement

Financial Management

Risk Assessment. The financial management assessment of project implementation arrangements identified MIPU's limited experience with World Bank projects as the principal risk. The following measures will be taken to mitigate this risk: VIRIP will finance a project

accountant to join PST to ensure that the project's financial management arrangements satisfy the Bank's requirements, as stipulated in OP/BP 10.00; financial management procedures will be detailed in the Project Operations Manual (POM); and training in matters of financial management will be provided on an ongoing basis as part of the World Bank's interaction with PST and counterpart staff, and through regular supervision missions during implementation.

11. Budgeting. A budget for the entire whole project will be prepared and broken down by year with the appropriate levels of detail.

12. Counterpart Funding. Since IDA will fund 100 percent of eligible expenditures, inclusive of taxes, no counterpart funding is envisaged.

13. Funds Flow. Funds will flow from the World Bank to GoV into a Designated Account (DA), from which payments can be made (refer to Disbursements section below for additional details).

14. Accounting and Maintenance of Accounting Records. MIPU uses "Smartstream," the Vanuatu Government's accounting system, and operates on a cash basis of accounting. Accounting records are maintained by MFEM, however MIPU will also be required to maintain a copy of all accounting records for the Project, and to make them available to both auditors and the World Bank, as required.

15. Internal Controls, including Internal Audits. Government agencies in Vanuatu are required to comply with the financial management processes and procedures, as detailed in the *Public Finance and Economic Management Act 2006* and *Vanuatu Government Financial Regulations*. These are considered satisfactory for this project. Currently, there are no internal audit arrangements within MIPU. MFEM is responsible for internal audits and is increasing its capacity and scope to perform internal audits of line agencies.

16. Periodic Financial Reporting. Unaudited interim financial reports (IFRs) will be prepared on a semester basis. The IFRs will include an analysis of expenditures for the current period, year-to-date expenditures, plus outstanding commitments. These will be compared against the overall project budget, and as required under Vanuatu Government Financial Regulations. The format will be developed by the implementing agency and agreed with the World Bank prior to the due date for submitting the first IFRs. IFRs will be forwarded to the World Bank within 45 days of the end of each calendar semester.

17. External Audits. The Office of the Auditor General of Vanuatu is mandated to audit all Government funds and requires that annual financial statements be prepared in accordance with IPSAS cash accounting standards. The audited financial statements of the project, audit reports and management letters must be received by the World Bank within six months of the end of the fiscal year, and will be made publicly available by Vanuatu in a manner acceptable to the Bank, as per the General Conditions of IDA Credits and Grants.

Disbursements

18. Disbursement Methods and Supporting Documentation Arrangements. The project will have four disbursement methods: (i) advances; (ii) direct payment; (iii) reimbursement; and (iv) special commitments. Direct payment would only be used for large payments or when payments are in currencies that the borrower may have difficulty obtaining. Reimbursement would only be used if GoV funds were used for project expenses, rather than expenditures through the Designated Account. Special commitments may be needed if goods are purchased from overseas. Disbursements will be against Lists of Payments and Statements of Expenditure. Required supporting documentation for disbursements are outlined in the Disbursement Letter.

19. Designated Account. The project would need a Designated Account (DA) for advances. The currency of the DA would be Vanuatu Vatu, which would be held in a segregated DA. Vanuatu uses a central treasury account at the Reserve Bank of Vanuatu (central bank), so the segregation is achieved via a separate General Ledger code in Smartstream accounts to separate project accounts, while funds physically are held in the one central treasury account at the Reserve Bank of Vanuatu.

Eligible Expenditures

Category	Amount of IDA Credit Allocated (SDR)	Amount of IDA Credit Allocated (US$)	Amount of IDA Grant Allocated (SDR)	Amount of IDA Grant Allocated (US$)	% of Expenditures to be Financed (inclusive of taxes)
(1)Goods, works, non-consulting services, consultants' services, Incremental Operating Costs and Training for the Project (excluding works under Part 3(a) of the Project)	15,520,000	21,860,000	15,520,000	21,860,000	100
(2) Works for Part 3(a) of the Project	2,130,000	3,000,000	2,130,000	3,000,000	100
(3) Emergency Expenditures		0		0	100
Total Amounts:	**17,650,000**	**24,860,000**	**17,650,000**	**24,860,000**	

Funding Sources

Source	Amount (SDR mil.)	Amount (US$ mil.)	Share of Total (%)
World Bank – IDA Credit	17.65	24.86	50%
World Bank – IDA Grant	17.65	24.86	50%
Totals:	**35.30**	**49.72**	**100%**

20. Disbursement Conditions. No withdrawal shall be made for payment under Category 3 unless the Recipient has declared that an eligible emergency has occurred and the Association has agreed in writing to such determination.

21. Retroactive financing of up to SDR 10.59 million (Grant) and SDR3.53 million (Credit) will be available for eligible expenses paid by the Government one year prior to signing of the Legal Agreements.

Procurement

22. The assessment of MIPU's capacity to carry out procurement according to Bank policies identified risks related to the capacity and experience of the agencies in handling procurement. As such, the project's overall procurement risk is rated as *substantial*.

23. Risks and agreed mitigation measures are identified in the following table.

Risk Identified	Mitigation Measures
1. Lack of experience with World Bank procurement procedures.	(1) World Bank Procurement and Consulting Guidelines to be disseminated to concerned agencies early on in implementation. (2) At least one full-time procurement consultant to be hired as early as possible, preferably through retroactive financing, to: • prepare a detailed procurement manual as part of the POM; • provide procurement training to MIPU staff; • prepare/update a practical procurement strategy and plan; • conduct procurement. The above will cover goods/works and consultants.
2. Limited staff and capacity.	PST to work closely with representatives from concerned PMUs. Additional consultants to be hired to supplement capacity, if needed.
3. Limited capacity of the local market.	The procurement strategy and plan to be developed should: (1) Encourage the use of IBCs; (2) Ensure that the size of contracts are commensurate with the capacity of contractors, especially for islands without IBCs; and (3) Use the Bank's simplified procurement procedures when possible.

4. Uncertainty about implementation arrangements.	The government has agreed on arrangements to implement the project.

24. PST will carry out all procurement for the project with inputs from the PMUs at MIPU and MoET, as well as assistance from consultants to be financed under the project. All VIRIP contracts will be signed by MIPU.

25. Procurement will be carried out in accordance with: "Guidelines: Procurement of Goods, Works and non-consulting Services under IBRD Loans and IDA Credits and Grants by World Bank Borrowers," dated January 2011 (Revised July 2014); "Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits and Grants by World Bank Borrowers," dated January 2011 (Revised July 2014); and the specific provisions stipulated in the legal agreements. MIPU will seek an exemption from the Central Tendering Board for not following the Vanuatu procurement procedures.

26. Procurement of Works. The majority of works for reconstruction and improvement of road structures is expected to be small value scattered among remote islands in four provinces. It is expected that shopping will be used for most contracts. In some of the islands where competent local contractors[21] are not available, up to three rounds of small value contracts (not to exceed Vatu 2.5 million - US$25,000 equivalent - per contract and no more than two cycles) may be awarded through direct contracting to identified local firms that have the potential to be developed into IBCs. After the initial learning stage, contracts will be awarded through competitive procurement based on a cost plus fee or lump sum (as appropriate). Construction/reconstruction of public buildings and schools will be contracted competitively. The table below provides the threshold for different methods of civil works procurement.

27. Procurement of Goods. The following table provides the threshold for different methods of goods procurement. Direct Contracting may be used in exceptional circumstances, as stated in paragraph 3.7 of the Procurement Guidelines.

28. Selection of Consultant Firms and Individual Consultants. The table below provides the threshold for different methods of the selection of consulting firms and individual consultants. Under the circumstances described in paragraph 3.8-3.11 of the Consulting Guidelines, consulting firms may be selected and awarded on a Single-Source Selection (SSS), subject to IDA's prior approval. Individual consultants will be selected and contracts awarded in accordance with the provisions of Para. 5.1 through 5.5 of the Consultant Guidelines. Under the circumstances described in Para. 5.6 of the Consultant Guidelines, individual consultants may be selected and awarded on a Single-Source basis, subject to IDA's prior approval.

[21] Under DFAT's Road for Development Project (RfD), local contractors were trained in contracting and construction of small structures and road maintenance on about four islands. These contractors are referred to as Island Based Contractors (IBCs). Under VIRIP, some small works are expected to take place on islands without contractors.

Procurement Methods and Review Thresholds

Procurement Methods	Procurement Thresholds	Prior Review Thresholds
Goods:		
International Competitive Bidding (ICB)	≥US$ 500,000	All contracts subject to prior review.
Shopping	<US$ 500,000	First shopping contract subject to prior review.
Direct Contracting		All contracts subject to prior review.
Works:		
International Competitive Bidding (ICB) or National Competitive Bidding (NCB)	≥US$ 1,000,000	All contracts subject to prior review.
Shopping	<US$ 1,000,000	First two shopping contracts subject to prior review.
Direct contracting (applicable to islands where IBCs are not available)	<US$ 25,000	The first cycle of direct contracting is subject to prior review.
Selection of Consultants:		
Selection Methods	Applicability	Prior Review Thresholds
Firms (QCBS, QBS, LCS, CQS and SSS)	In accordance with World Bank Consulting Guidelines.	≥US$ 100,000 (exception made to SSS, where all contracts under SSS subject to prior review).
Individuals		≥US$ 200,000 (exception made to SSS, legal, FM and procurement related assignments, where all contracts are subject to prior review).

29. Procurement Plan. VIRIP's procurement plan dated May 12, 2016 will be available on MIPU's website, as well as on the World Bank's external website. The procurement plan will be updated annually in agreement with IDA, or as required, to reflect project implementation needs. The Procurement Plan excludes training activities and operating costs. A summary procurement plan for VIRIP's first 18 months is as follows:

a) Goods and Works

Description	Procurement Package Number	Procurement Method	Prequal.	Review by Bank	Expected Bid Opening Date	Estimated Cost (US$)
Works and Goods						
Reconstruction of Roads on AAA Island	AAA-CW-01 & AAA-CW-02	Shopping	N	Prior*	Sep-17 and Dec-17	$50,000 each

Group 1 &2 (2 contracts)						
Reconstruction of Roads on BBB Island Group 1 &2 (2 contracts)	BBB-CW-01 & BBB-CW-02	Shopping	N	Prior*	Sep-17 and Dec-17	$50,000 each
Reconstruction of Roads on CCC Island Group 1 &2 (2 contracts)	CCC-CW-01 & CCC-CW-02	Shopping	N	Prior*	Sep-17 and Dec-17	$50,000 each
Reconstruction of Roads on DDD Island Group 1 &2 (2 contracts)	DDD-CW-01 & DDD-CW-02	Shopping	N	Prior*	Sep-17 and Dec-17	$50,000 each
Reconstruction of Roads on EEE Island Cycle 1&2(2-5 contracts)	EEE-CW-001	Direct Contracting	N	Prior/Post**	Sep-17 and Dec-17	Up to $25,000 each
Reconstruction of Roads on FFF Island Cycle 1&2(2-5 contracts)	FFF-CW-001	Direct Contracting	N	Prior/Post**	Sep-17 and Dec-17	Up to $25,000 each
Reconstruction of Secondary School Buildings Group 1 (five schools)	GGG-SSc-01	ICB	N	Prior	Mar-17	$3,000,000
Procurement of Vehicles	G-1	shopping	N	Prior	Oct 17	$400,000
Climate proofing of economic relevant road sections on HHH Island (in xxx lots)	HHH-CW-001	ICB	N	Prior	Jan 18	$12,000,000

Note: AAA, BBB, etc., will be the names of islands that are to be identified by PWD with advice from PST; * the first two shopping contracts will be subject to prior review and all remaining contracts will be subject to post review; ** the first cycle will be subject to prior review, the second cycle will be post review.

b) Consulting Services

Description	Selection Method	Review by Bank	Expected Award Date	Estimated Cost (US$)
Consultant Services				
DS-01:Design and Supervision of Schools and Public Buildings	QCBS	Prior	Apr-17	$1,200,000
DS-02:Design and Supervision for Roads	QCBS	Prior	Apr-17	$3,000,000
SM-01:Sustainable Maintenance	CQS	Prior	Sep-16	$250,000
IC-01:Project Manager	ICS	Prior	May-16	$1000,000
IC-02:Procurement Specialist	ICS	Prior	Nov-16	$500,000
IC-03:Project Accountant	ICS	Prior	Nov-16	$400,000
IC-04: Safeguards Specialist	ICS	Prior	Nov-16	$500,000

Environmental and Social (including safeguards).

30. Social. VIRIP is expected to have positive social benefits, especially for those most vulnerable to natural hazards. To the extent possible, all assets, including road sector assets, schools, public buildings, and associated structures will be reconstructed and/or improved within their existing boundaries. Limited land acquisition and/or minor land impacts may, however, become necessary during implementation. In view of this, Bank OP4.12 Involuntary Resettlement has been triggered. Land is expected to be voluntarily granted to the project based on the Voluntary Land Donation Protocol defined in the environment and social management framework (ESMF), based on meaningful consultations and citizen engagement. Where resources such as sand or aggregates are required, consultation with resource owners would be undertaken before payment arrangements are made.

31. Bank safeguard policy on Indigenous Peoples, OP4.10, has not been triggered as the four defining characteristics required to trigger this policy are not present in Vanuatu.

32. To the extent possible, all assets, including road sector assets, schools, public buildings, and associated structures, will be reconstructed and/or improved within their existing boundaries. There is the potential that small amounts of new land area may be required during implementation. This may be as a result of realigning the footprint of infrastructure, or it may be for access to sand and/or aggregates, or for the disposal of waste. Any such land would be negotiated and either voluntarily granted to the project based on the Voluntary land Donation Protocol defined in the ESMF, or a lease would be arranged. Such a process would be subsequent to meaningful consultations and citizen engagement processes. Where this process was not successful, and the project could not be forfeited, then the involuntary resettlement processes would be used under the Resettlement Policy Framework.

33. Community-based labor is very typical in the remote villages in Vanuatu. It is the villager's way of contributing to community development, in partnership with the relevant Government Ministries. It is anticipated that communities will donate labor on many road and school projects in this way. The communities will not be paid. Consultation with communities during project identification and design will be undertaken to confirm the type of work that is required, whether labor will be available, what training is required, and the most appropriate timing for the work to fit around other *nakamal*, work and family commitments. Women and men will be equally involved in the consultations and opportunities to contribute. Occupational health and safety training and equipment will be required alongside any technical training.

34. Environment. A screening of the proposed types of investments (in accordance with OP4.01 Environmental Assessment) has identified likely potential impacts from: (i) managing construction and demolition waste, including the risk of asbestos-containing materials; (ii) sourcing sand and gravel for construction; (iii) vegetation clearance and sediment discharge from earthworks; and (iv) cement discharges to waterways and coastal areas from concrete formwork. Asbestos could be widespread. There is one landfill on Tanna, but generally waste in villages is either reused or dumped in a local pit. Much of the building debris from Cyclone Pam has been salvaged for reuse. Licensed quarries for sand and gravel are located on Tanna, but for many small-scale activities, informal beach mining and terrestrial sources of aggregate is used (despite environmental permits and mining licenses being required).

35. Significant impacts from reconstructing infrastructure that should be avoided or mitigated during design include: (i) exacerbating flooding and coastal erosion, or otherwise modifying waterways and the foreshore; and (ii) affecting breeding or feeding grounds or migratory routes.

36. Because specific types of investments and their locations are unknown, the ESMF has been prepared as the safeguard instrument. The ESMF guides the investments by screening out Category A activities (activities with large scale, irreversible or significant impacts), and projects that are not consistent with the Bank's safeguards policies. Category A projects are unlikely, but in any case are not eligible for funding because the scale of assessment and mitigation required will divert resources from lower risk / higher benefit projects and reduce the efficacy of the PDO. The ESMF also provides a screening process to determine the need for project-specific environmental management plans (EMP) for any project and/or environmental permits under the Environmental Protection and Conservation Act, and provides standard mitigation measures for likely potential impacts, including those listed above.

37. Licensed quarries will be used. Where it is not possible to source sand or gravel from existing licensed quarries, then environmental screening will be undertaken to ensure potential impacts from local sources are avoided or mitigated and licenses and permits will be obtained from the Department of Geology and Mines and Department of Environmental Protection and Conservation, before works begins. The ESMF contains a Waste Protocol that follows the waste hierarchy, and an Asbestos Protocol for managing and disposing of the hazardous waste.

38. Physical cultural resources (PCR) (regarding OP4.11) and natural habitats (regarding OP4.04) are unlikely to be found in the existing alignments/footprints of infrastructure that will be reconstructed. However, they may be encountered when footprints are expanded or realigned, or for ancillary sites such as where aggregates are sourced. The ESMF provides checklists and procedures for identifying PCR and natural habitats and avoiding or mitigating possible impacts. Sub-projects that are inconsistent with either policy would be screened out of selection for funding.

39. The frameworks were disclosed on the Government's official website on April 8, 2016 (http:\gov.vu/virip) and were subject to consultations with relevant government Ministries during a workshop in Port Vila on the same day. The same documents were published on the Bank's external website on April 11, 2016. Because the exact location of investments is not known, site specific consultation could not be undertaken. Issues that were raised during the discussions included: ensuring Provincial and Area Councils were involved in project planning; using Community Participation and Community Partnership Officers to assist with community engagement during project planning and implementation; and ensuring national laws, including the Environmental Protection and Conservation Act, were complied with throughout the project. PWD and MOET have systems in place to engage the community on any proposed projects, and the ESMF has been strengthened to show this.

40. Implementation of ESMF and RPF. The ESMF and RPF will be administered by the PST on behalf of MIPU. PST will regularly oversee that works are being selected, designed and constructed consistent with the ESMF, and will produce progress reports for the PSC and the Bank. PST will be responsible for ensuring that the relevant training and capacity building is carried out and that the ESMF forms part of the contract documentation for consultants and contractors involved in the Project. PST will ensure that Ministries are securing access to land, and compensating lost assets, in accordance with the ESMF and RPF. PST will recruit a safeguards specialist with expertise in the implementation of donor safeguards policies, to perform these responsibilities.

41. Most of the ESMF implementation relates to construction of road sector structures, buildings, and other infrastructure. PWD is developing a corporate safeguards management system, and includes health and safety in the contracts for IBC and CBC. Capacity building/training that will be undertaken by PST (supported by supervising engineers and contractors) prior to works being undertaken. Environment, health and safety compliance will form part of the contract conditions. PST (supported by PWD, supervising engineers and / or main contractors) will supervise ESMF implementation and provide additional support/training during construction where necessary to ensure compliance. This training and supervision will be

targeted at the skill level of the workers and the nature and scale of the potential risks of the project.

Gender

42. Based on the 2009 census, women make up 48 percent of the ni-Vanuatu population; 24 percent of households is female headed.[22] Traditionally women are responsible for domestic works and small-scale income-generation activities, while men engage in community and family decision-making and sell cash crops and livestock for income. Women in Vanuatu are under-represented in government decision-making bodies and are also potentially underrepresented in community consultations. Violence against women in Vanuatu is alarmingly high, widely accepted, and complicated by the traditional ways of dealing with violence.

43. Gender Actions under VIRIP. Project safeguards instruments, the project operations manual, technical designs, and capacity-building for project implementation agencies, contractors and communities will include specific actions to mitigate specific gender-related risks and concerns, and ensure that there are equal opportunities for women to benefit from project investments. For labor-intensive and community-based approaches, gender considerations will be taken into account and equal opportunities will be provided to women for capacity-building, contracting, and equal payment, as well as decision-making. Separate sessions for women will be a part of the safeguards and community consultation process. The project operations manual will include guidance to ensure that women are represented in decision-making. Community participation officers and community partnership officers will be trained to effectively engage women in reconstruction activities. Reconstructed infrastructure, such as schools, will provide adequate sanitation facilities for women and girls, taking into account safety and emergency considerations. To raise awareness of gender issues and promote an inclusive approach to reconstruction, the project will work closely with GoV, NGOs and other stakeholders.

44. The project results framework includes beneficiary population as well as number of work days created for local contractors disaggregated by gender. Gender issues will be monitored throughout the project implementation.

[22] According to the 2009 census.

Annex 4: Implementation Support Plan

Vanuatu: Infrastructure Reconstruction and Improvement Project

1. Strategy and Approach for Implementation Support. Strategy and Approach for Implementation Support. VIRIP's overall implementation risk is substantial. Risks rated substantial include: political and governance; technical design of the project; institutional capacity for implementation and sustainability; fiduciary; and environmental and social. The focus of Bank implementation support will be on ensuring that the risk management measures built into the project design are successfully implemented.

2. Political and Governance. Discussions with key ministries and agencies involved in the project will continue throughout implementation along with a concerted effort to promote active participation.

3. Technical Design. Improvements to road assets will build on the R4D model in relation to use of IBCs, which is a proven approach that has constructed dozens of simple, small structures along 163 km of road sections on four islands. For larger transport structures and schools and public buildings, conventional designs will be used. The project's design includes technical assistance through consulting firms for design and/or supervision, as well as project management, including fiduciary and safeguards aspects. The Bank Team's strategy and approach for implementation will be to manage these risks through frequent conference calls with counterparts and increased supervision missions.

4. Institutional Capacity for Implementation and Sustainability. The project will fund a PST and design and/or supervision consultants to provide technical support to MIPU. In addition, the Bank Team may share standard and preliminary designs, especially as they relate to structures built to withstand category five events, which are submitted to the Client for consideration.

5. Procurement. In addition to prior review of procurement transactions, at least two procurement missions will be fielded annually to support implementation. Procurement post reviews will be conducted annually.

6. Financial Management. The following table outlines the plan to supervise the financial management aspects of VIRIP.

Activity	Frequency
Desk Reviews	
Unaudited interim financial reports (IFRs) - review	Bi-annually
Annual audit report - review	Annually
On Site Visits	
Project supervision.	Initially bi-annually, then annually if/when risk rating is revised to moderate and/or performance rated

	moderately satisfactory or better.
Monitor actions taken on issues highlighted in IFR reviews, audit reports, auditors' management letters, and other applicable documents.	On an as-needed basis.
Review of transactions.	On an as-needed basis.

7. Environmental and Social Safeguards. The project will fund a PST to provide safeguard support to MIPU, and environmental and social specialist will join Bank missions.

8. Implementation Support Plan. Bank missions to support implementation are expected to be conducted every six months, or more frequently, if needed. The Pacific CMU has two Operations Officers specialized in providing implementation support to clients who can provide more intensive assistance in between missions, particularly during the early phases of implementation.

9. At least once per year the missions will include technical, fiduciary and safeguard specialists, who will provide input on design and construction of road assets, schools and public buildings, carry out post-reviews on contract management, conduct random audits of expenditures and check on filing of documents and provide on-the-job and formal training on fiduciary aspects. Safeguards specialists will also work with counterparts to help ensure that the project complies with all relevant safeguard frameworks and plans.

10. The estimated level of annual support needed is identified in the following table.

Main Focus of Implementation Support

Time	Focus	Skills Needed	Estimate	Partner Role
First 12 months	Project launch and start-up	Task Team Leader Engineer Procurement Financial Management Environment and Social Operations/Implementation Specialist Administrative Support	US$ 85,000	n/a
Following 12 to 60 months	Project implementation	Task Team Leader Engineer Procurement Financial Management Environment and Social Operations/Implementation Specialist Administrative Support	US$ 340,000	n/a

Skills Mix Required

Skills Needed	Number of Staff Weeks	Number of Trips	Comments
Task Team Leader	8	3	The estimates for number of staff weeks and number of trips are on an annual basis.
Operations Officer	8	3	
Technical	4	2	
Procurement	2	2	
Financial Management	2	2	
Environnent and Social	4	4	
Administrative Support	3	0	

Annex 5: Cost-Benefit Analysis of School Reconstruction and Improvement

Vanuatu: Infrastructure Reconstruction and Improvement Project

1. This annex describes an indicative cost-benefit analysis of the reconstruction and improvement of a typical cyclone-damaged school, where the financial outlays (as per the cost-effectiveness analysis presented in the main body of this document) are compared with estimates of the net present value of the benefit, quantified under a suite of alternative assumptions.

2. Assumptions. This analysis attempts to quantify just a single benefit from the school reconstruction and improvement, or the value of its impact on children's educational attainment. This calculation rests on critical assumptions around: (i) the extent to which the infrastructure improvements lift educational outcomes (relative to a counterfactual of schools continuing to operate with destroyed and damaged infrastructure); and (ii) the value of that improved (quality and/or quantity of) education for each student, and society at large.

3. For the purpose of this cost-benefit exercise, the value of education itself (assumption ii above) is measured by estimating the (discounted) lifetime differential in consumption levels for adults with different levels of educational attainment. This approach is likely to yield an upper estimate of the consumption returns to education, since it implicitly assumes educational attainment is the necessary and sufficient cause of any consumption differential across individuals. At the same time, this measure excludes any benefits to education (such as improved health outcomes, labor migration opportunities, or any positive externalities such as tax takes) not captured in individual consumption levels. Other benefits stemming from the school infrastructure improvements unrelated to educational attainment (for example, benefits from improved safety during extreme weather events, benefits realized by teachers, or surplus earned by workers involved in the construction itself) are also omitted.

4. To estimate this consumption differential, cross-sectional data on individual (nominal) consumption levels from the 2010 Vanuatu HIES were used to estimate an equation characterizing consumption patterns over the life-cycle from age 12 onward (an approach analogous to Mincer (1958, 1974) analyses of income profiles). A regression model was estimated predicting the natural logarithm of ni-Vanuatu's consumption as a quadratic function of age, with intercept-terms varying according to three categories of educational attainment—below primary school, primary school or junior secondary school attainment. Individuals who had attained higher secondary, or tertiary education qualifications, or who were currently attending school, were excluded from the sample used to estimate the parameters. The estimated coefficients imply a 17 percent consumption premium for primary school educated individuals, and a 28 percent premium for graduates of junior secondary school, over those with less than a primary education (for completeness, estimated coefficients on age and age-squared imply a percentage impact on consumption of 0.411 per cent and -0.002 percent respectively, and the estimated constant term is 11.8).

5. The model characterizes consumption over the life-cycle in real terms (measured in the value of 2010 Vatu), so a real interest rate (the assumed nominal discount rate less three percent for inflation) was used to calculate the discounted present value of lifetime earnings implied by the model. In calculating the benefit of a primary school education, the discounted value of

lifetime consumption was evaluated at age 12. For evaluating the impact of achieving a junior secondary school education, the discounted value of lifetime consumption was evaluated at age 16. An opportunity cost of attending junior secondary school was also estimated—as the present value of the consumption premium realized by primary school educated children aged 12 to 15, over the same age cohort who did not complete primary school.

6. Given the considerable uncertainty around the impact of the proposed infrastructure improvements on educational outcomes (assumption i above), a suite of alternative assumptions on this impact are considered in the cost-benefit analysis. In all cases, to align with the measure of the value of education, educational outcomes are conceptualized according to the probability with which a student is likely to complete their primary or junior secondary school education. Since estimates from Tafea Province suggest TC Pam damaged or destroyed 59 percent of primary school classrooms and 41 percent of junior secondary school classrooms, a starting point might be to imagine that 59 percent of primary school students and 41 percent of junior secondary school students are no longer able to attend classes (and, conversely, that infrastructure improvements will lift primary and junior secondary school attainment levels by 59 and 41 percentage points, respectively). Anecdotal evidence suggests that the drop in educational attainment at cyclone-damaged schools is unlikely to be quite so severe,[23] but at the same time, the "catastrophic" state of school infrastructure implies that the quality of education for *all* attending students might be severely compromised (as noted in the discussion around the cost-benefit analysis).

7. In order to aggregate the benefits of the construction program for a particular school as a whole, individual benefits are aggregated for successive generations of graduates (assumed to constitute one-sixth of total enrollments for primary schools, and one-quarter of enrollments for junior secondary schools) and discounted over the assumed 25 year lifetime of the improved assets. As in the cost-effectiveness assessment, zero population growth is assumed.

8. The underlying data and results of this cost-benefit analysis are presented in the following table, under a number of alternative discount rate assumptions. The present value of the premium associated with attaining a primary school education (relative to less than primary) is greater than that associated with attaining a junior secondary school education (relative to primary). However, because enrollment numbers at a typical primary school tend to be lower than a typical secondary school, the present value of the aggregate benefit of infrastructure improvements for a whole school tends to be higher at the secondary level than the primary level (assuming the improvements have a commensurate impact on the likelihood of graduation at each level). At the same time, recall that the cost of reconstruction work is higher at a typical secondary school, relative to a typical primary school.

9. In sum, a higher net present value is generally associated with the reconstruction and improvement of a typical primary school, relative to a typical junior secondary school (if one assumes that the investment yields a commensurate impact on the likelihood of graduation at the

[23] Reported declines in school attendance rates following TC Pam were driven in part by factors unrelated to school infrastructure (including increased demand for labor on the family farm or at home due to cyclone damage) (PDNA, p 49).

different levels of education, and assuming relatively high interest rates). However, as noted previously, this analysis is limited in its assumptions and excludes a raft of relevant considerations. In particular, there may be substantial positive externalities associated with secondary schooling in the context of excess demand for qualified labor, and these are not accounted for here.

School Reconstruction and Improvement: A Cost-Benefit Analysis (in US$)

School level		Primary			Junior secondary		
Age after graduation (years)		12			16		
Discount rate (nominal)		5%	7%	10%	5%	7%	10%
Present value of lifetime consumption at graduation-age							
Did not complete schooling level		$51,434	$33,497	$20,983	$59,015	$39,231	$24,922
Completed schooling level		$60,673	$39,514	$24,753	$65,926	$43,826	$27,841
Present value of forgone consumption premium		-	-	-	($1,014)	($1,078)	($1,189)
Present value of lifetime consumption benefit per student at graduation-age							
Assumed percentage point increase in likelihood of school completion	**10%**	$924	$602	$377	$590	$352	$173
	20%	$1,848	$1,203	$754	$1,179	$703	$346
	40%	$3,696	$2,407	$1,508	$2,359	$1,406	$692
	50%	$4,620	$3,009	$1,885	$2,949	$1,758	$865
	100%	$9,239	$6,017	$3,769	$5,897	$3,516	$1,730
Present value of lifetime consumption benefit per school							
Assumed percentage point increase in likelihood of school completion	**10%**	$281,839	$154,661	$77,579	$370,916	$186,337	$73,407
	20%	$563,678	$309,323	$155,159	$741,832	$372,674	$146,813
	40%	$1,127,355	$618,645	$310,317	$1,483,665	$745,348	$293,627
	50%	$1,409,194	$773,307	$387,897	$1,854,581	$931,685	$367,033
	100%	$2,818,388	$1,546,614	$775,793	$3,709,162	$1,863,369	$734,067
Net present value of reconstruction and improvement per school							
Assumed percentage point increase in likelihood of school completion	**10%**	($18,161)	($145,339)	($222,421)	($379,084)	($563,663)	($676,593)
	20%	$263,678	$9,323	($144,841)	($8,168)	($377,326)	($603,187)
	40%	$827,355	$318,645	$10,317	$733,665	($4,652)	($456,373)
	50%	$1,109,194	$473,307	$87,897	$1,104,581	$181,685	($382,967)
	100%	$2,518,388	$1,246,614	$475,793	$2,959,162	$1,113,369	($15,933)

References

Mincer, J. (1958). "Investment in Human Capital and Personal Income Distribution". *Journal of Political Economy*, 66(4): 281-302.

Mincer, J. (1974). *Schooling, Experience and Earnings*. National Bureau of Economic Research.