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# INTEGRATED SAFEGUARDS DATA SHEET APPRAISAL STAGE

Report No.: ISDSA17483

**Date ISDS Prepared/Updated:** 07-Apr-2016

Date ISDS Approved/Disclosed: 07-Apr-2016

#### I. BASIC INFORMATION

#### 1. Basic Project Data

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Country:	Papua New Guinea Project ID: P155087								
Project Name:	Water Supply and Sanitation Development Project (P155087)								
Task Team	Fook	Fook Chuan Eng,Edkarl M. Galing							
Leader(s):		- <del>-</del>							
Estimated	08-Ap	pr-2016		Estimated	24-	24-May-2016			
Appraisal Date:				<b>Board Date</b>	:				
<b>Managing Unit:</b>	GWA	.02		Lending		estm	ent F	Project 1	Financing
				<b>Instrument:</b>	:				
Sector(s):	Water	r supply (90%), Sanitat	tion	(10%)					
Theme(s):	Rural (75%)	services and infrastruc	cture	e (25%), Urbar	serv	ices a	nd h	ousing	for the poor
Is this project pr	rocess	ed under OP 8.50 (1	Eme	ergency Reco	overy	<i>i</i> ) or	OP	No	
8.00 (Rapid Resp	ponse to Crises and Emergencies)?								
Financing (In US	Financing (In USD Million)								
Total Project Cos	st:	77.30	]	Гotal Bank Fi	Financing: 70.00				
Financing Gap:		0.00							
Financing Sou	rce				Amount				
BORROWER/F	RECIP	IENT				7.30			
International De	evelop	ment Association (IDA	<u>()</u>			70.00			
Local Sources of	Local Sources of Borrowing Country			0.00					
Total	77.3					77.30			
Environmental	B - Partial Assessment								
Category:									
Is this a	No								
Repeater									
project?									

### 2. Project Development Objective(s)

The Project Development Objective (PDO) is to support the development and strengthening of the planning and implementation capacity of water sector institutions, and to increase access to water supply services in selected urban towns and rural districts.

#### 3. Project Description

Three major components are proposed for the project, with a fourth additional Contingent Emergency Response component provisioned for the Bank to provide emergency support in the event of a natural disaster, emergency and/or catastrophic event. The three major components are: the (1) National Water Supply, Sanitation and Hygiene Behavior (WaSH) Policy Component, (2) Rural and Peri-urban Water and Sanitation (WSS) Component, and (3) Urban WSS Component. The rural and peri-urban WSS component, and the urban WSS component, are in turn subdivided into a policy implementation or institutional strengthening subcomponent and an associated infrastructure investment subcomponent. Given the phasing and pace of supports to the different sub-sectors, funding allocation is expected to be largest in the urban WSS component.

Component 1: Institutional structures for the implementation of the National WaSH Policy

This component is focused on supporting the development of the key sector institution i.e., the WaSH PMU, and key sector tools (strategies, plans and sector instruments) that will form the management framework of the sector as envisaged in the National WaSH Policy. At the end of the project, it is envisaged that the WaSH PMU will be able undertake its basic mandate of development planning and facilitating investments in the rural and peri-urban areas. A sector monitoring system is expected to be developed and begun operations during the project period. The National WaSH Policy provisions for the development of comprehensive sector institutions and sector tools over a period of time. Starting from a nascent setup, the WaSH PMU is envisaged to be developed over time into a full-fledge national sector authority (the National Water, Sanitation and Hygiene Authority, NWSHA) responsible over a range of sector issues – development and investment planning and coordination, monitoring, regulations, etc. The establishment of the NWSHA will take time and may not occur during the project period.

#### Component 2: Rural and Peri-urban Water and Sanitation

This component is focused on supporting the WaSH PMU to develop a framework for the coordination, planning and implementation of rural and peri-urban WSS in districts and in peri-urban areas. It is envisaged that the delivery of services will be through the sub-national authorities, in particular the new District Development Authorities (DDAs). The primary role of the WaSH PMU is thus to coordinate and provide a systematic national framework (including common policies, guidelines, financing frameworks and mechanisms, monitoring, regulations, etc.) and supporting the subnational authorities for rural and peri-urban WSS development and investments. Support towards building the national framework is addressed in Component 1. Component 2 will focus on supporting and building the capacity of the new district level authorities (DDAs) to plan, develop, implement and monitor rural WSS. District-wide systematic WaSH planning, development and monitoring is not yet practiced. This component will begin by piloting the development of District WaSH Development Plans in up to four selected pilot districts during the first 18 months. This will provide lessons on how the WaSH PMU could work through subnational authorities towards a systematic increase of access to services in districts. At the same time, the development of these plans provides the opportunity for building the capacity of DDAs in WaSH. Upon the successful development of district plans, selected investments in rural WSS based on these plans are expected to be undertaken.

Component 3: Urban Water and Sanitation

This component is focused on supporting the expansion of WSS services to urban areas, specifically

in district and provincial towns where Water PNG has the mandate to provide these services. It is envisaged that a rolling program of design and investment support for new provincial and district towns schemes (planned to be implemented in batches) would be carried out. Investment will commence with a first priority town scheme, which has been designed during project preparation, to test out and pave the way for a smooth rolling investment program. Given the water security and sustainability issues linked to climate change risks, scheme designs will include optimal design options for water conservation, energy efficiency, and source sustainability. Other town schemes, to be identified from the pool of currently unserved district and provincial towns, will follow suit during implementation. This component will also support technical and financial improvements in Water PNG's existing operations. The existing operations of Water PNG would be assessed through technical audit and priority recommendations for improvement-focused rehabilitation of existing water and sanitation infrastructure implemented with project financing support. This will complement Water PNG's existing re-investment program to improve performance and extend service of critical profitable systems, which amounted to about US\$ 7 million in 2015. This component will also support a critical assessment of Water PNG's existing business and operating model, in particular to identify options that could be adopted in the future to ensure continual financial viability as it expands service provision new (and generally small and less profitable) district towns.

#### Component 4: Contingent Emergency Response

Given PNG's vulnerability to climate and disaster risks this 'zero component' (initially without any allocated funding) is proposed to be included. This Component will allow for the rapid reallocat ion of funds from other components to provide emergency relief, recovery and reconstruction support in the event of a natural disaster, emergency and/or catastrophic event. Funds potentially reallocated to Component 4 would be disbursed either against a positive list of critical goods and/or against the procurement of works, and consultant services required to support the immediate response and recovery needs. Implementation will be guide by a Contingent Emergency Response Implementation Plan to be developed as necessary in response to the emergency.

## 4. Project location and salient physical characteristics relevant to the safeguard analysis (if known)

The project is located in Papua New Guinea with sub-project investments in rural areas and various district and provincial towns across the country. The focus of the investments will be on water supply systems comprising a water source, treatment plant, water storage and reticulation to end users. In terms of scale, rural schemes are typically small spring-fed, gravity-based piped systems. Rural sanitation efforts financed by the project will be to be limited to sanitation/hygiene training in selected districts. In urban settings, investments will be in small reticulated systems within towns, with possible extensions to surrounding villages. Volumes are relatively small, with water sourced from within or very near town usually from groundwater. For Water PNG's existing operations, investments may include rehabilitation and performance improvement within the existing water and sewerage systems.

#### 5. Environmental and Social Safeguards Specialists

Nicholas John Valentine (GENDR) Ross James Butler (GSU02)

6. Safeguard Policies	Triggered?	Explanation (Optional)
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Environmental Assessment OP/BP 4.01	Yes	The sub-project investments are generally expected to have limited environmental and social impacts through sire selection and the application of mitigation measures. This policy is triggered to ensure a commensurate level of environmental and social impact assessment (ESIA). The ESIA process for sub-projects is governed by an ESMF, which incorporates an Indigenous Persons Planning Framework (IPPF) and Resettlement Policy Framework (RPF). All sub-projects will be screened using the procedures included in the ESMF. An initial sub-project investment has been identified – the Bialla Water Supply Project – for which an ESIA has been prepared in accordance with procedures in the ESMF.
Natural Habitats OP/BP 4.04	No	Program activities will not involve significant conversion or degradation of natural habitats. Sub-project investments may involve incidental vegetation clearing for installation of reticulation; however there is sufficient design flexibility to minimize this, thereby avoiding significant impacts. Most infrastructure will be sited on already converted lands within existing urban settlements.
Forests OP/BP 4.36	No	The project will not support any civil works that have impacts on the health and quality of forests.
Pest Management OP 4.09	No	The Project does not involve procurement or use of pesticides.
Physical Cultural Resources OP/BP 4.11	Yes	While known physical cultural resources can be avoided by sub-project design there is a chance that these resources may be uncovered during the course of civil works, hence this policy is triggered. A chance finds procedure has been included in the ESMF to cover these eventualities.
Indigenous Peoples OP/BP 4.10	Yes	OP 4.10 would be triggered as indigenous peoples (IP) communities may exist within subprojects' areas of influence. Subprojects under Component 2 may include rural areas where the majority of beneficiaries are IP. For these projects no separate Indigenous Peoples Plan (IPP) will be prepared with IPP elements instead incorporated into overall subproject design. Investments under Component 3 are unlikely to meet the four defining criteria for IP communities in PNG under the Environmental and Social Safeguard Instruments for the Pacific Islands (ESSIP) as most infrastructure will be sited within urban areas which are expected to comprise heterogeneous populations. However ancillary infrastructure (eg. rising mains from stream sources) may traverse customary/IP community lands beyond the urban boundary in which case OP 4.10 would be triggered and

		site specific IPPs will be prepared. If land acquisition is needed in customary/IP community lands, voluntary land donation (VLD) mechanism or negotiated agreements on land use will be utilized. A social assessment will be undertaken for each sub-project to establish the presence, or otherwise, of IP communities in the respective project areas. If present, IP communities will be provided with equitable and culturally-appropriate benefits from the subproject. A process of free, prior and informed consultation with IP communities will be undertaken to establish broad community support. An Indigenous Persons Planning Framework (IPPF) has been prepared and is incorporated in the ESMF.
Involuntary Resettlement OP/BP 4.12	Yes	It is anticipated that sub-projects requiring involuntary resettlement will be ineligible for project financing and will be screened out at the eligibility screening stage. The bulk of land required for water supply infrastructure established under Component 3 sub-projects is expected to be Government-owned. In some instances however (e. g. installation of rising mains) private or customary land may be traversed. In these circumstances voluntary land donation (VLD) or other a negotiated agreement (e.g. lease, easement) will be the mechanism. Under Component 2 in rural situations VLD will likely be the primary mechanism. Although no involuntary resettlement is anticipated the process and requirements for VLD and negotiated land use agreements have been included in an RPF which is part of the ESMF.
Safety of Dams OP/BP 4.37	No	The Project does not involve dams. Raw water sources will be either groundwater or stream sources, with no instream impoundments proposed.
Projects on International Waterways OP/BP 7.50	No	The Project does not involve international waterways.
Projects in Disputed Areas OP/BP 7.60	No	The Project is not located in disputed areas.

### II. Key Safeguard Policy Issues and Their Management

#### A. Summary of Key Safeguard Issues

# 1. Describe any safeguard issues and impacts associated with the proposed project. Identify and describe any potential large scale, significant and/or irreversible impacts:

Overall, the project is environmentally and socially beneficial. The sub-project components will involve simple, appropriate, low cost technologies that do not pose significant environmental or social consequences. The provision of safe drinking water and sanitation facilities is expected to have a significant positive impact on the improvement of livelihoods and the environment. Minor and temporary negative environmental impacts may occur resulting from the construction activities. This may include noise and dust, and temporary access restrictions due to pipe laying

activities during construction. These impacts are readily manageable by standard mitigation measures. Observations at existing construction sites under Water PNG oversight suggest that the organization' staff is well-equipped to manage environmental issues at work sites. The World Bank Group' General Environmental, Health, and Safety (EH&S) Guidelines and EH&S Guidelines for Water and Sanitation will be the key environmental guidance documents for the construction, operation and maintenance of potable water treatment and supply systems to be financed under the WSSDP.

A key environmental issue for the project is the sustainability of the raw water supply and the avoidance of any environmental impacts from source development. To ensure these impacts are avoided, assessments of the proposed water sources will be undertaken to determine their sustainability under the proposed extraction regime. These assessments will consider the ecological values of the water sources, seasonal variations in supply volumes and the proposed extraction regime to determine the source sustainability. Candidate water supply schemes with sources that are not sustainable from an environmental perspective will not be eligible for project financing. Furthermore, if source development may result in unacceptable impacts on natural freshwater habitats these schemes will not be eligible for project financing.

The project will not seek to develop water sources that require changes to watershed management regimes. Similarly, no water sources will be developed where there is the potential for significant impacts on protected areas or biodiversity nor will infrastructure be sited in these areas.

Investments in sanitation will be mostly in rural situations and will be limited to hygiene behavior education including technical assistance with simple technologies, i.e. pit latrines. Investments in urban sanitation infrastructure will be limited to rehabilitation of existing Water PNG sewerage systems. Hence the potential for environmental impacts from the sanitation activities is expected to be insubstantial. During the course of rehabilitation works of Water PNG systems, the environmental performance of these systems will be reviewed and recommendations made for improvements where necessary.

Potential negative environmental impacts are expected to be associated with civil construction activities for new water supply systems (eg. noise, dust, access restrictions), utilization of water resources for these systems, disposal of minor quantities of sludge from water treatment plants, and relatively low levels of operational noise. Aluminum Sulfate sludge generated from water treatment will be buried. For the purposes of noise compliance the guideline values specified in the General EHS Guidelines will be adopted for the project, with commensurate monitoring to be undertaken on specific sub-projects. Siting of project infrastructure will consider proximity to sensitive receptors including hospitals, schools, religious institutions and residences and avoid these as far as practicable.

Positive social impacts include (i) improved quantity and quality of safe drinking water (ii) reduction in water related diseases such as diarrhea, dysentery, cholera, typhoid and thereby minimizing the cost of health care in households (iii) reduction in infant, child and maternal mortality and morbidity due to improved health and sanitation services (iv) reduced distances to water points which will lead to gains in productive time for women and girls (v) better and properly sited sanitation facilities will reduce the risk of contamination of surface and groundwater resources.

Potential negative social impacts are associated with poor water quality from the new supply

systems. To avoid these impacts on sub-projects under Component 3 raw water will be treated with disinfecting agents such as chlorine and treated water will be regularly monitored by Water PNG at several points in the distribution system against World Health Organization (WHO) drinking water quality guidelines.

## 2. Describe any potential indirect and/or long term impacts due to anticipated future activities in the project area:

The only indirect and long term impacts associated with the project will be positive. As noted in section 1 above, the provision of water supply and improved sanitation has numerous health and social benefits.

The sustainability of raw water sources will be assessed during project design to ensure that the proposed water supply system demands do not cause any significant reduction in either stream flow or compromise ecological values or other users.

## 3. Describe any project alternatives (if relevant) considered to help avoid or minimize adverse impacts.

Within individual water supply schemes to be financed under Component 3 alternative water source options will be examined. The suitability criteria will include sustainable yield, water quality and minimal environmental or social impacts. Alternative options for infrastructure siting will be assessed to determine a preferred option that minimizes the need for land acquisition (private or customary), avoids environmentally or socially sensitive locations and is acceptable to the local community. This will also include options that minimizes operational inconveniences (e. g., operational noise levels) acceptable to the local community.

## 4. Describe measures taken by the borrower to address safeguard policy issues. Provide an assessment of borrower capacity to plan and implement the measures described.

Water PNG will implement Component 3, i.e., those sub-projects related to the provision of water and sanitation services in district and provincial towns and which trigger safeguards policies. Water PNG will form a dedicated Project Management Unit (PMU-WPNG) similar to arrangements previously adopted for donor-funded projects. Water PNG has a track record of implementing donor financed water supply and sanitation infrastructure projects of comparable size, including capacity for procuring and managing the preparation of safeguards instruments and construction supervision against Environmental and Social Management Plan requirements. Nevertheless, the project will support capacity and technical skills gaps through a complement of technical assistance consultants as required. This will include technical assistance activities where relevant for environmental and social safeguards during project preparation and/or implementation. The Bank team's international water quality expert has assessed the capacity and track record of Water PNG with respect to water quality monitoring to be satisfactory. Water PNG has a track record of operating water supply (it was established in 1986 as the PNG Waterboard). Water PNG performs regular and systematic sampling and monitoring of water quality in all its operations, as required by the authorities. All sampling and analytical work is performed by a NISIT (National Institute of Standard and Industrial Technology) registered laboratory. The PNG drinking water quality code of practice and the World Health Organization (WHO) Drinking Water Quality Guidelines are the basis for Water PNG Water's water quality operations and monitoring.

## 5. Identify the key stakeholders and describe the mechanisms for consultation and disclosure on safeguard policies, with an emphasis on potentially affected people.

The key stakeholders for the investments proposed under Component 3 include the recipient communities, local government representatives, PNG Conservation and Environment Protection

Agency (CEPA), private or customary landholders (if infrastructure is to be sited on these lands) and local indigenous peoples' communities. The mechanisms for consultation and disclosure for these various groups are as follows:

Extensive consultation was carried out during the preparation of the project ESMF including discussion with key stakeholders including Water PNG, other government ministries, local level governments (LLG) and members of currently identified potential subproject communities in January 2016. Consultations in Bialla (the first identified town water supply investment) included approximately 200 people in a public location (50% of which were women), involving subproject beneficiaries and local representatives. Several types of accessible and appropriate documents, were made available to the stakeholders and beneficiaries during the consultations. Feedback from consulted people provided key contributions for the preparation of the ESMF and the specific ESIA. During these consultations, the various issues associated with accessing land for the purposes of project delivery – especially the focus on identification and design of projects so that any land impacts would be avoided - were discussed. Similar consultations will be undertaken for other towns as schemes are identified and prepared.

There has been several consultations during project preparation. Continuous consultations appropriate for the project investments are planned as a part of project implementation arrangements. Stakeholders and beneficiaries consultations will continue during project implementation. The mechanisms for consultations and disclosure during implementation include the following:

- Recipient communities residents of towns that will be provided with new water supply systems will be consulted during the design phase on various issues including infrastructure design and siting and willingness to pay. The format for consultation will generally be town meetings. These consultations will include gender-specific activities as water collection is predominantly the role of women and girls;
- Local government representatives Water PNG will need to secure agreements with local government entities for siting of infrastructure;
- CEPA environmental permits will need to be secured from CEPA for the abstraction of water for sub-project supply;
- Private or customary landholders with the types and settings of projects (i.e. low density urban) contemplated under Component 3 there is almost always an alternative siting or routing available for infrastructure to avoid private or customary land. If infrastructure must be sited on non-government land the relevant landholder will be consulted during the design phase with the view to securing the necessary land via voluntary land donation or other negotiated agreement. If this is not possible, an alternative sub-project location will be selected to avoid implementation delays rather than pursue compulsory acquisition;
- Indigenous peoples' (IP) communities if IP communities are determined to be present in the sub-project area (in accordance with the four criteria specified in the World Bank' policy free, prior and informed consultation will be undertaken with the aim of securing a collective expression of broad community support for the sub-project.

The project's ESMF incorporates grievance redress mechanisms which will be designed in to each sub-project.

The revised version of the ESMF (which also includes the IPPF and the RPF) has been made available on the Bank Infoshop and Water PNG websites, and hard copies made available at Water

PNG offices and the relevant project area district/local-level government office. Stakeholders and project beneficiaries will have further opportunities to provide feedback to these documents during project implementation, including during further consultations related to the preparation of specific ESIAs as new town schemes are identified.

#### B. Disclosure Requirements

Environmental Assessment/Audit/Management Plan/Other  Date of receipt by the Bank Date of submission to InfoShop  For category A projects, date of distributing the Executive	14-Mar-2016
Date of submission to InfoShop  For category A projects, date of distributing the Executive	
For category A projects, date of distributing the Executive	07 A == 2016
	07-Apr-2016
Summary of the EA to the Executive Directors	
"In country" Disclosure	
Papua New Guinea	07-Apr-2016
Comments: The safeguards instruments (ESMF and ESIA) have PNG website and in hard copy at the Bialla Town	
Resettlement Action Plan/Framework/Policy Process	
Date of receipt by the Bank	14-Mar-2016
Date of submission to InfoShop	07-Apr-2016
"In country" Disclosure	
Papua New Guinea	07-Apr-2016
Comments: The RPF (incorporated into the ESMF) will be disc and in hard copy at the Bialla Town local governm	
Indigenous Peoples Development Plan/Framework	
Date of receipt by the Bank	14-Mar-2016
Date of submission to InfoShop	07-Apr-2016
"In country" Disclosure	
Papua New Guinea	07-Apr-2016
Comments: The IPPF (incorporated into the ESMF) will be dis and in hard copy at the Bialla Town local governm	
If the project triggers the Pest Management and/or Physical C respective issues are to be addressed and disclosed as part of the Audit/or EMP.	<u>-</u>
If in-country disclosure of any of the above documents is not ex	xpected, please explain why:

### C. Compliance Monitoring Indicators at the Corporate Level

OP/BP/GP 4.01 - Environment Assessment					
Does the project require a stand-alone EA (including EMP) report?	Yes [×]	No [	]	NA [	]
If yes, then did the Regional Environment Unit or Practice Manager (PM) review and approve the EA report?	Yes [×]	No [	]	NA [	]
Are the cost and the accountabilities for the EMP incorporated in the credit/loan?	Yes [×]	No [	]	NA [	]

OP/BP 4.11 - Physical Cultural Resources			
Does the EA include adequate measures related to cultural property?	Yes [×]	No [ ]	NA [ ]
Does the credit/loan incorporate mechanisms to mitigate the potential adverse impacts on cultural property?	Yes [ ]	No [ ]	NA [×]
OP/BP 4.10 - Indigenous Peoples			
Has a separate Indigenous Peoples Plan/Planning Framework (as appropriate) been prepared in consultation with affected Indigenous Peoples?	Yes [×]	No [ ]	NA[]
If yes, then did the Regional unit responsible for safeguards or Practice Manager review the plan?	Yes [×]	No [ ]	NA[]
If the whole project is designed to benefit IP, has the design been reviewed and approved by the Regional Social Development Unit or Practice Manager?	Yes [ ]	No [ ]	NA [×]
OP/BP 4.12 - Involuntary Resettlement			
Has a resettlement plan/abbreviated plan/policy framework/ process framework (as appropriate) been prepared?	Yes [×]	No [ ]	NA[]
If yes, then did the Regional unit responsible for safeguards or Practice Manager review the plan?	Yes [×]	No [ ]	NA [ ]
Is physical displacement/relocation expected?	Yes [ ]	No [×]	TBD[]
Provided estimated number of people to be affected			
Is economic displacement expected? (loss of assets or access to assets that leads to loss of income sources or other means of livelihoods)	Yes [ ]	No [×]	TBD[]
Provided estimated number of people to be affected			
The World Bank Policy on Disclosure of Information			
Have relevant safeguard policies documents been sent to the World Bank's Infoshop?	Yes [×]	No [ ]	NA[]
Have relevant documents been disclosed in-country in a public place in a form and language that are understandable and accessible to project-affected groups and local NGOs?	Yes [×]	No [ ]	NA [ ]
All Safeguard Policies			
Have satisfactory calendar, budget and clear institutional responsibilities been prepared for the implementation of measures related to safeguard policies?	Yes [×]	No [ ]	NA [ ]
Have costs related to safeguard policy measures been included in the project cost?	Yes [×]	No [ ]	NA[]
Does the Monitoring and Evaluation system of the project include the monitoring of safeguard impacts and measures related to safeguard policies?	Yes [×]	No [ ]	NA [ ]

Have satisfactory implementation arrangements been agreed	Yes [ × ]	No [	]	NA [	]
with the borrower and the same been adequately reflected in					
the project legal documents?					

### III. APPROVALS

Task Team Leader(s): Name: Fook Chuan Eng, Edkarl M. Galing				
Approved By				
Safeguards Advisor:	Name: Peter Leonard (SA)	Date: 07-Apr-2016		
Practice Manager/ Manager:	Name: Ousmane Dione (PMGR)	Date: 07-Apr-2016		