Inclusive Urban Development in the Greater Suva Area

RETA: 6293 - Fiji

Prefeasibility Study for GSA Drainage and Flood Management Project: Volume 1

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Abbreviations

CCAR	Central Coordinating Agency for Roads
CDIA	Cities Development Initiative for Asia
DLG	Department of Local Government
DOE	Department of Environment
DTCP	Department of Town and Country Planning
DURD	Department of Urban Drainage
EIRR	Economic internal rate of return
EMP	Environmental Management Plan
FRA	Fiji Road Authority
GDP	Gross Domestic Product
GEF	Global Environment Facility
GIS	Geographic Information System
GSA	Greater Suva Area
HH	Households
LWRM	Land and Water Resources Management Division
MDG	Millennium Development Goal
MFF	Multi-Tranche Finance Facility
MLGUDHE	Ministry of Local Government Urban Development Housing & Environment
MOWTPU	Ministry of Works, Transport and Public Utilities
MTIIP	Medium Term Infrastructure Investment Program
NGO	Non-government organization
O&M	Operation and maintenance
PFS	Prefeasibility Study
PIO	Project implementing office
PIU	Project implementation unit
PMU	Project management unit
PPTA	Project Preparation Technical Assistance
PSIP	Public Sector Investment Plan
PSP	Private Sector Participation
SDP	Strategic Development Plan
TA	Technical Assistance
WAF	Water Authority of Fiji

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Study Schedule and Management

This Prefeasibility Study (PFS) was undertaken during an eight month period from late September 2011 until the end of April 2012. During this time, the four counterpart Councils of Suva, Lami, Nasinu and Nausori provided guidance and support through their Steering Committee and hosted two stakeholder workshops.

Disclaimer

The views expressed in this report are those of the CDIA consultant team, unless otherwise indicated. They are not necessarily the views of the Cities Development Initiative for Asia or of the Government of Fiji.

Executive Summary

1. Background

In 2011, the Suva, Lami, Nasinu and Nausori Councils sought technical assistance from the Cities Development Initiative for Asia (CDIA) to help realize the councils' shared vision for the Greater Suva Area (GSA) to become a "well serviced and economically vibrant" urban area. The ensuing CDIA study prepared a 5-Year Medium Term Infrastructure Investment Program (MTIIP) covering eight priority projects in four sectors, namely: urban transport, drainage and flood management, wastewater management and solid waste management. From this project list, two high priority projects in: (i) urban transport and (ii) drainage and flood management were selected by stakeholders for Pre-Feasibility Study (PFS). This Report documents the PFS for the GSA Drainage and Flood Management Project.

2. Project Description

The Project will improve drainage and flood management infrastructure in the four GSA council areas. It has been designed to improve the quality of life of GSA residents, support economic growth and enhance the GSA's role as Fiji's main economic center. The Project also aims to strengthen the overall urban drainage and flood management sector by: (i) supporting the establishment of a Department of Urban Drainage (DURD) in the Ministry of Local Government, Urban Development, Housing and Environment (MLGUDHE); (ii) strengthening urban drainage sector planning, management and implementation capacities in MLGUDHE and the GSA councils, and; (iii) strengthening the institutional and policy framework for providing sustainable urban drainage services. It will also promote the participation of citizens, particularly women and the poor in urban drainage management and services.

The Project is demand-driven. The four GSA councils selected the Drainage and Flood Management Project to progress to Prefeasibility level, and selected the works necessary to alleviate flooding, ponding and erosion problems throughout the GSA. The proposed Project is inclusive and will benefit all GSA residents. It specifically targets seven informal settlements that are severely affected by floods. It is expected that the Project investments in drainage and related investments in urban transport in the target settlements may act as a catalyst for full settlement upgrading funded by government in partnership with international agencies.

The Project supports the Fiji Government's Roadmap for Democracy and Sustainable Socio-Economic Development 2009-2014 which emphasizes capacity development and improved infrastructure as the means to uplift urban services and living standards, induce higher levels of private investment and economic growth and reduce poverty.

The Project has five integrated outputs: (i) **Improved Drainage and Stormwater Management**: will construct or upgrade road culverts, open drains and maintenance access roads; (ii) **Protected Riverbanks**: will install bank protection over 2.3km of the Lami and Rewa Rivers; (iii) **Improved River or Stream Flood Management**: will raise a seawall in central Suva; dredge 7km of rivers or streams; construct a weir and line 700m of Waicuku Creek in Nausori, and; raise Quaia bridge in Lami; (iv) **Strengthened Sector Capacity for Planning and Management**: will establish DURD, develop the capacity of MLGUDHE and councils to plan and mange urban drainage and flooding and pilot the extension of council rating system to informal settlements and urban villages; and (v) **Strengthened Capacity for Project Implementation**: will provide consulting support and develop the capacity of MLGUDHE and council staff for project management.

3. Project Rationale

Background: The GSA is Fiji's largest urban center. Suva City is the national capital and seat of government. The GSA has grown significantly over the past twenty years and has emerged as an important economic, commercial and service center for Fiji and the South Pacific

Region. With an estimated population of 256,000 in 2011, the GSA accounts for 29% of Fiji's population, and 57% of its urban population. Driven largely by rural to urban migration GSA's population is forecast to grow by 41,000 to around 297,000 within the next decade, accounting for about two-thirds of the country's total population growth. The urban sector contributes about 60% of Fiji's GDP, with GSA's share estimated at 40%. With the decline in agriculture's contribution to GDP and uncertain tourism outlook, the GSA is expected to contribute an even greater proportion of GDP in future and to become increasingly important to the national economy. Despite its growth opportunities, GSA is experiencing rapid environmental degradation as a result of urbanization which limits its economic growth potential.

Urban Issues and Challenges: Urbanization in GSA is taking place with weak coordination between sector agencies, insufficient infrastructure and limited consideration for the environment. The results include uncoordinated development, inefficient land use, loss of natural resources, and inadequate access to urban services. The problems are attributed partly to poor urban management, little strategic spatial planning, poor connectivity between urban planning and environmental management, and insufficient investment in infrastructure and community services. A limited but growing awareness of climate change issues is also resulting in unchecked growth of greenhouse gas emissions and a lack of climate change preparedness. The Project will strengthen urban planning and management capacity and develop priority urban infrastructure to help support the GSA's economic growth and protect GSA from the risks of increased flooding.

Pro-Poor Focus: The urban poor in informal settlements suffer disproportionately from inadequate provision, management and maintenance of drainage infrastructure. Lack of drainage infrastructure and inadequate operation and maintenance (O&M) of existing infrastructure have adverse impacts on their health, well-being and access to jobs and services. The poor are less able to cope with the effects of poor drainage, inadequate sanitation and flooding. An estimated 38% of those in informal settlements live below the poverty line. The Project specifically targets drainage and flood management improvements that will benefit seven informal settlements with more than 7,000 residents.

Poor Drainage and Increased Flooding: The GSA is susceptible to flooding because of inadequate drainage, intense rainfall, short steep catchments, development on low lying land, limited maintenance, lack of development controls and unsustainable practices in upstream catchments. An estimated 2,000 households and 200 businesses are flooded in GSA several times each year. Flooding problems are worsened by overflowing sewerage systems, lack of drain maintenance or blockages by silt and solid waste. Erosion of land, roads and riverbanks also occurs due to inadequate drainage, poor building practices, steep gradients or lack of erosion protection. The Project will enhance GSA's role as Fiji's main economic centre and improve its competitiveness in the region through prioritized investments in urban drainage infrastructure and services. It advocates maintaining natural drainage paths and floodwater retention areas, improved building controls and catchment management practices.

4. Project Impact and Outcome

The expected impact of the overall project is enhanced economic development and improved quality of life and environmental conditions in the Greater Suva Area. The expected outcome is improved quality, reliability, coverage and efficiency of urban drainage and flood management throughout the four GSA municipalities. This will be achieved through an integrated program of physical and non-physical investments in priority drainage and flood management infrastructure rehabilitation, improvement and extension, together with institutional, regulatory and policy reform and capacity development.

5. Project Cost Estimates

The total Project cost, including physical and price contingencies and taxes is estimated at F23.4 million (US$13.2 million) as shown below.

Estimated Project Cost in $million

Item	Project Cost per Municipality in F$m				Total	Total
	Lami	Suva	Nasinu	Nausori	F$m	US$m
1. Improved Drainage & Stormwater Management	1.5	1.4	1.4	1.4	5.7	3.2
2. Protected Riverbanks	0.8	-	-	1.4	2.2	1.3
3. Improved River & Stream Flood Management	1.5	2.3	0.6	1.5	5.9	3.3
4. Strengthened Planning & Management Capacity	0.3	0.3	0.1	0.3	1.0	0.6
5. Strengthened Capacity for Project Implementation	0.7	0.7	0.4	0.8	2.5	1.4
6. Total Estimated Base Costs	**4.8**	**4.5**	**2.5**	**5.5**	**17.4**	**9.8**
7. Physical & Price Contingencies	1.7	1.6	0.9	1.9	6.1	3.4
8. Total Estimated Project Cost	**6.5**	**6.1**	**3.4**	**7.4**	**23.4**	**13.2**

Notes: 1. Exchange rate: US$1.00 = F$1.77; 2. Includes taxes and duties. 3. Based on April 2012 prices.

6. Economic Viability

The Project Economic Internal Rate of Return (EIRR) has been calculated on the basis of quantified flood benefits in terms of reduced damages to property and infrastructure. The EIRR of 12% indicates an acceptable social and economic return on investment.

7. Project Financing

The suggested project financing structure is an “umbrella” loan/grant from a major development agency (such as a Multilateral Development Bank) with co-financing of selected activities by other development partners. It could be a stand-alone project or integrated into a broader, long term urban development program targeting several infrastructure sectors. A possible funding arrangement using a programmatic approach could include a US$150-200 million Multi-Tranche Finance Facility (MFF) over 10-15 years whereby groups of projects are implemented in successive phases or tranches. The two priority projects in drainage and flood management and in urban transport could be the 1st tranche of the proposed MFF. Other projects that form part of the MTIIP could be included in subsequent tranches. The long term programmatic approach also provides the opportunity to assist Government with policy reforms in such key areas as: (i) council rates system; (ii) recovery of unpaid rates or fees for urban services; (ii) extending rating areas into informal settlements and urban villages; (iii) land policy including urban development on native land; (iv) upgrading infrastructure in peri-urban areas prior to incorporation into municipalities; (v) accelerating informal settlement upgrading using a sector approach through the MFF; (vi) strengthening the framework for urban development by reforming outdated and unclear legislation, and formulating sector policies, strategies and investment plans to ensure good governance and sector sustainability.

8. Project Implementation Arrangements

MLGUDHE is the proposed Executing Agency. The four GSA councils and Fiji Roads Authority (FRA) are the proposed implementing agencies. A Project Steering Committee comprising representatives of MLGUDHE, the four councils and FRA would provide overall project guidance and direction. Two options are under consideration for project implementation, namely: (i) a Project Management Unit (PMU) comprising MLGUDHE, council and FRA staff, with project implementing offices in each council and FRA, or; (ii) individual Project Implementing Units (PIUs) in the four councils, FRA and in the Department of Local Government (DLG), which would be responsible for urban drainage sector strengthening (Output 4). The MLGUDHE and councils have little experience in implementing externally-assisted projects, and will require support in the form of consultants and capacity development. This support will include individual consultants within the PMU or PIUs and two contracted consulting firms for: (i) design and supervision, and; (ii) sector strengthening. The Project also includes community-driven drainage improvements in informal settlements and Fijian villages, whereby communities will plan, design and implement appropriate drainage improvements with assistance of PIUs. The implementation arrangements may need to be modified if the two priority projects are implemented concurrently.

9. Consulting Services

Proposed individual consultants within the PMU include: an international procurement specialist, international drainage specialist and a national financial management specialist. They would be engaged at Project start to help establish and train PMU/PIUs and recruit the consulting firms for two consulting packages: Package 1 - Strengthened Capacity for Urban Sector Planning and Management, which would include institutional specialist/team leader; municipal engineering specialist and a legal/regulatory specialist, and; Package 2 – Design and Supervision Consultants for Project Implementation, including design and construction supervision engineers, social specialists, environmental specialists, construction supervisors, topographic surveyors, GIS and CAD drafters, and administration staff

10. Project Benefits and Beneficiaries

The Project will support economic development, enhance the urban environment, improve public health, and contribute to better quality, coverage and reliability of drainage and flood management services for an estimated 290,000 people in the GSA by 2018. Those benefitting most are an estimated 1,472 households and 170 businesses which are flooded several times each year. It will also provide qualitative improvement in the lives and health of around 1,220 poor and low income households mostly located in low-lying areas which are severely affected by flooding and ponding several times each year by stormwater contaminated with wastewater. The project is likely to deliver tangible benefits to women by: (i) improving their access to basic drainage infrastructure; (ii) reducing the amount of time spent in preparing for floods, cleaning up and caring for family members who may be adversely affected by floods. The Project may include specific actions that contribute to gender equality and women's empowerment, including equal access to capacity development programs, enhanced gender equity in urban institutions, and increased female representation in project implementation structures and consultation groups.

11. Environment

The Project is expected to make significant improvements to quality of life as well as the physical and ecological environment. An initial environmental assessment showed that the Project is not expected to cause irreversible adverse environment impacts. Any negative environmental impacts are likely to be short-lived, minor, and limited by: (i) carefully selecting project sites; (ii) implementing mitigation measures; (iii) preparing an Environmental Management Plan (EMP); (iv) regularly monitoring implementation of the EMP, and; (v) appropriate capacity building of the PMU, PIU and councils. The EMPs will form part of the construction contract documents. Climate change adaptation measures incorporated in the Project will include: increased minimum pipe sizes to enable improved flushing and minimize accumulation of silt; increased frequency of maintenance to address increased accumulation of silt and debris, and flood plain zoning and improved development controls.

12. Risks

The main risks associated with the Project are (i) limited human resources and capacities of MLGUDHE and councils for project implementation; (ii) weak urban planning and management of urban drainage services; (iii) unclear institutional, legal and policy framework for urban drainage; (iv) uncertain funding of O&M costs necessary for sustainable drainage, and; (v) unclear government policy relating to urban drainage. The project incorporates mitigation measures to address these risks, including: (i) institutional strengthening of MLGUDHE and councils to increase their planning, managerial and operational capacities; (ii) establishment of DURD with responsibility for urban drainage sector policy, strategy, coordination, monitoring and technical support; (iii) reforming key legislation for the urban drainage sector to clearly define responsibilities of agencies involved in the urban sector; (iv) consultants with experience in implementing externally assisted projects will help PMUs and PIUs establish effective project management; and (vi) government commitment to allocation of budget for drainage operation and maintenance to make up any revenue shortfalls.

1 Introduction

1.1 Background

This report summarises the results of the PFS for the GSA Drainage and Flood Management Project, which forms an integral part of the MTIIP covering the four sectors of waste water, urban transport, drainage and flood management, wastewater management and solid waste management. The study has been prepared through close collaboration between the four GSA councils of Suva City, Lami, Nasinu and Nausori, CDIA and the PFS consultants.

The objective of the study is to formulate an integrated inclusive and sustainable project addressing institutional, technical, financial, economic, social and climate change issues. The study area is GSA, the major urban area for Fiji and home to nearly 260,000 residents. It is the seat of Government and contains the municipalities of Lami, Suva, Nasinu, and Nausori together with their peri-urban areas.

1.2 Report Structure

This report is structured as follows.

1. **Chapter 1:** Provides a brief background on the project and study area.
2. **Chapter 2:** Outlines the key development issues in the GSA.
3. **Chapter 3:** Presents the Project rationale, the recommended Drainage and Flood Management Project description and cost estimates.
4. **Chapter 4:** Discusses the relevant crosscutting issues.
5. **Chapter 5:** Reviews Project environmental impacts
6. **Chapter 6:** Presents preliminary financial and economic assessments.
7. **Chapter 7:** Describes proposed implementation arrangements and options.
8. **Chapter 8:** Provides a summary of the project risks.
9. **Chapter 9:** Describes the ensuing feasibility study and key issues requiring further analysis.
10. **Chapter 10:** Provides a summary of the conclusions and recommendations.

1.3 Acknowledgements

Counterpart assistance was provided principally by Suva City Council through a project office, computer facilities, transport, mobile communications and through organising the steering committee meetings and stakeholder workshops. The Special Administrators and Chief Executive Officers of each Council were most helpful in arranging for site visits, supporting access to Government Departments and providing information and advice whenever needed by the CDIA consultant team. They were also instrumental in guiding the outcome of this PFS and in the selection of the two priority projects. The CDIA consultant team expresses its sincere appreciation for this support.

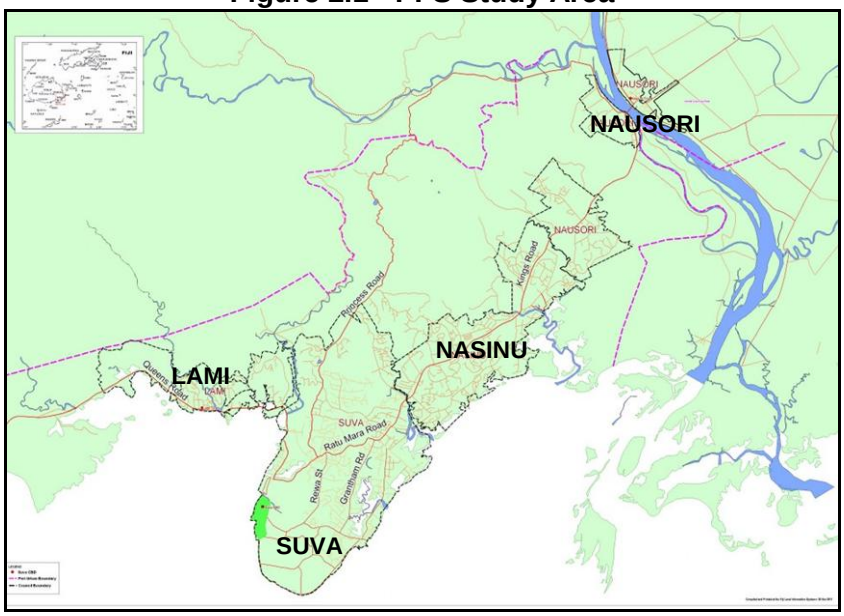
2 Key Development Issues in the GSA

2.1 Project Area

2.1.1 Project Location

The Greater Suva Area comprises Suva City, Lami, Nasinu and Nausori Towns and their adjacent peri-urban areas, located on the southeast coast of Fiji's main island, Viti Levu. (Figure 2.1). The GSA stretches over a 24km long continuous urban corridor from Lami in the west to Nausori in the east. Much of the existing urban development is located on low-lying land on the coastal fringes or flood plains.

Figure 2.1 - PFS Study Area



2.1.2 Fiji's Economy

Fiji's economy is growing at a slow pace, largely because of global factors and the country's complex political context. Moving to a "significantly higher level of potential growth would require an improved business and political climate and a more aggressive structural-reform effort. While there are new mining and other projects on the horizon, some of these have not yet been confirmed and will take time to produce results". The main risks to the economic outlook "relate to political uncertainties and structural weaknesses and the fragile global economy. The potential global economic downturn could slow Fijian growth to some extent, mostly through declines in tourism, remittances, and foreign direct investment". (Source: International Monetary Fund, February 2012). The Government budget forecasts relatively strong economic growth of 2.3% in 2012. GDP composition by sector is estimated as: services 59.7%, industry 30.4% (tourism, sugar, and garments), and agriculture 9.9%. The contribution of agriculture to GDP continues to decline.

2.1.3 GSA's Role as an Economic Centre

Suva City is the national capital, the seat of government and an increasingly important commercial centre for Fiji and for much of the South Pacific region. It is the centre for most Pacific-region banks, financial institutions, international development agencies, intergovernmental agencies, non-government organizations and is home to the University of the South Pacific. The majority of Fiji's government ministries, departments and statutory authorities are located in the GSA. The GSA economy also benefits from its well developed transport links and industries. The Nausori Airport provides international air services to

Australia and New Zealand and domestic services throughout Fiji. A large part of Fiji's international shipping is conducted at Suva's Kings Wharf, including international cruise ships, which have led to growth in Suva's tourism industry, as well as related factories, warehouses, import-export companies, shipyards and container yards. The GSA is also a centre for industrial and commercial activity, with large industrial areas at Walu Bay, Vatuwaqa, Raiwaqa, Laucala Beach, Wailada and Manoca. Suva also has a large commercial and shopping centre and markets, which are replicated at a smaller scale in the other three GSA municipalities. The GSA is the country's largest urban area and its main economic centre.

2.1.4 Fiji and GSA Population

In 2007, Fiji's total population was about 837,000, including 425,000 in urban areas. The nation's urbanization level increased from 46% to 51% in 1996-2007, driven largely by rural to urban migration. Urban annual growth rate for 1996-2007 was about 1.5%, more than twice the nation's overall growth rate of 0.7%. Given present trends, the total population of Fiji is forecast to reach 1 million by 2030, with 61% urbanization. (Source: 2007 Population Census). In 2011, an estimated 256,000 (57%) of the country's urban population resided in the GSA. Over the past decade, Nasinu and its peri-urban have overtaken Suva City as Fiji's largest urban population centre. Overall growth rate in the GSA was 1.3% in 1996-2007. The fastest growing town, Nausori, places its growth rate at 4%, while Lami growth rate was only 0.7%.

Table 2.1 - GSA Population Distribution and Forecasts, 2011 – 2021

Description	Projected Population			% of GSA Population in 2011
	2011	2016	2021	
Lami Town	11,060	11,450	11,860	4
Suva City	75,980	77,900	79,470	30
Nasinu Town	82,980	90,720	98,210	32
Nausori Town	26,970	29,200	31,610	11
Waila New City	0	4,370	4,820	0
Total for City and Towns	196,990	213,640	225,970	77
Peri-urban	59,320	65,220	71,340	23
Total for Greater Suva Area	**256,310**	**278,860**	**297,310**	**100**
Informal Population (included above)	43,650	48,150	52,970	17

Source: Consultant's estimates based on 2007 Population Census.

2.1.5 Status of GSA Infrastructure and Services

GSA's urban infrastructure has developed in a piece meal fashion since the 1960's. A large part of existing infrastructure is old and in poor condition through the impacts of flooding, and lack of maintenance. Over the past two decades, capital works have focused largely on extensions or new systems, with lesser attention to rehabilitation and maintenance. Inadequate maintenance has exacerbated the already degraded infrastructure. A number of other issues contribute to the declining urban development conditions within the GSA. Of most significance from the perspective of this PFS is the unclear institutional and legal framework for the urban development sector. Other major constraints in all infrastructure sectors include lack of finance for infrastructure expansion, upgrading and maintenance, low levels of cost recovery and lack of professional management and technical staff. A summary of GSA infrastructure and services in various key sectors is summarized below.

Table 2.1 - GSA Infrastructure and Services, 2011

Sector	Coverage %	Responsible Agency	Comments
Water Supply	97	Water Authority of Fiji	High coverage, even in informal settlements. Supply interruptions and low pressure occur in remote areas.
Sewerage	42	Water Authority of Fiji	Sewerage network expansion is needed urgently to arrest environmental degradation, reduce pollution and health risks, enable higher population densities and thereby more efficient urban services.

Sector	Coverage %	Responsible Agency	Comments
Urban Transport	n.a.	Fiji Roads Authority (to replace Department of National Roads	GSA road network is comprehensive. Most roads are heavily loaded and in poor condition through lack of maintenance and investment. Traffic congestion has become commonplace.
Solid Waste Management	76%	Municipal councils responsible for waste collection/transport. Private contractor manages landfill under DOE supervision.	Main problems are low cost recovery, and the high cost of transporting waste to the Naboro sanitary landfill (44-80km round trip) and high tipping fees due to low coverage and lack of economies of scale.
Drainage and Flood Management	n.a.	Fragmented responsibilities. Municipal councils and Fiji Roads Authority are the main agencies for urban drainage.	The drainage network is comprehensive in city/town areas, but in poor condition due to lack of drainage planning and minimal funds for investment and maintenance. Over 8,000 residents and about 200 businesses are directly affected by annual flooding of their properties.

2.2 Key Development Issues

2.2.1 SWOT Analysis

Analysis of Strengths, Weaknesses, Opportunities and Threats (SWOT) helps to identify the key issues that need to be addressed by a development framework, and provides the overall direction for strategic development. The SWOT analysis for the GSA is presented in Figure 2.2, and key issues are discussed below.

Figure 2.2 - SWOT Analysis

Greater Suva Area – Urban Development SWOT Analysis	
STRENGTHS	**WEAKNESSES**
• Location – regional hub for the South Pacific • Diverse economy, resilient to external shocks • Less susceptible to cyclones than most other urban centres in Fiji • Economic growth centre for Fiji • Excellent transport links including international airport and port • Large human resources pool • Existing infrastructure is basic but provides a platform for rapid expansion and increased coverage • Government is proceeding with its public sector reform program to improve the efficiency of public services • Government is gearing for democratic elections in 2014 which are expected to lead to an improved political and investment climate	• Shortage of land for development • Low coverage of urban services and frequent flooding • Urbanisation has led to a widening gap between infrastructure capacity and demand • Green conservation areas and mangroves are not strictly preserved • Weak capacity for urban planning • Inadequate funds for infrastructure development, operation and maintenance • Unclear institutional, policy and legal framework for urban development and services • Poor coordination between agencies involved in urban planning and management • Shortage of professional and skilled personnel • Low population density adversely impacts on the cost and efficiency of urban services • Informal settlements and urban villages exempt from local planning laws and rates, located in vulnerable areas and lack basic urban services • Poor development control and enforcement leads to uncoordinated urban growth • Land use plans do not provide an adequate basis for urban development
OPPORTUNITIES	**THREATS**
• Democratic elections in 2014 trigger increased investment and donor funding • Continued development of GSA as a national and	• Lack of professional and skilled personnel adversely impacts GSA efficiency and investment • Environmental degradation adversely impacts

Greater Suva Area – Urban Development SWOT Analysis	
regional economic growth centre • Expansion of tourism, manufacturing, services, and export-import related businesses • Sewerage expansion enables higher population densities and more efficient urban services • Improved urban infrastructure services promote economic and social development in the GSA • An investment project to develop urban infrastructure can leverage urban sector capacity development, institutional and policy reform	natural resources and quality of life • Development on low lying land is vulnerable to floods, tsunamis, cyclones and climate change • Slow upgrading of informal settlements and Fijian villages due to lack of funds and government commitment • Accelerating rural to urban migration and proliferation of informal settlements in GSA • Uncertainty over the political situation continues to constrain investment in Fiji

2.2.2 The Widening Infrastructure Gap

The national agencies and municipal councils responsible for providing urban infrastructure and services are unable to keep pace with the demands arising from rapid urban growth. Growing pressures to develop well planned, well serviced urban housing and land places an increasingly heavy management and financial burden on the Government, municipal councils, businesses and urban residents who recognize the need for improved, more efficient and sustainable city wide services. Poor urban infrastructure and services in the face of steadily growing urbanization in the GSA causes environmental degradation, increases health risks, and limits socio-economic development and investment. Despite its growth opportunities, GSA is experiencing rapid environmental degradation as a result of urbanization pressures.

The GSA's population is forecast to grow by 41,000 to around 297,000 within the next decade (2012-21), accounting for about two-thirds of the country's total population growth. GSA's infrastructure was well developed in the 1970's but, through lack of planning, investment and maintenance, has fallen well behind population and urban growth. There is now a large gap between urban services capacity and demand, which is becoming wider with every passing year. This gap is reflected in: (i) low coverage of reticulated sewerage which has remained at about 42% for over a decade[1]; (ii) a deteriorating and more congested road system; (iii) a growing number of informal settlements that lack basic urban services; (iv) widespread problems with flooding, many of which have remained unresolved for over 30 years, and; (v) old and inefficient solid waste collection trucks and excessive haul distances to the GSA's landfill which make solid waste services inefficient and a major burden for councils' and households' budgets.

Infrastructure and urban services play a critical role in achieving the GSA councils' shared goal of developing the GSA into an efficient, well-serviced and economically vibrant urban area. More specifically, infrastructure investment is urgently needed to improve the wellbeing of individuals by providing access to basic services and realise GSA's growth potential by enhancing investment, economic opportunities, productivity and business efficiency.

2.2.3 Land Shortages and Population Density

Shortage of land suitable for development in the GSA adversely impacts investment, social cohesion and the environment. Land shortages often force new development, both formal and informal, into hazardous areas such as low-lying reclaimed land, mangroves or flood plains where occupants are vulnerable to frequent flooding, tsunamis, cyclones and climate change impacts. New development areas often require filling above adjacent flood plains which reduces flood storage and causes higher upstream flooding or erosion due to changing flood flow patterns. Coastal development often results in destruction of mangroves and other important natural resources.

[1] Because of population growth, coverage has remained at about 42% over the past decade despite over US$45 million of investment in the ADB-funded Suva-Nausori Water Supply and Sewerage Scheme.

The efficiency of urban infrastructure and services is also adversely affected by low population densities and difficult terrain, which ranges from steep hills to low lying land with high water table. The GSA stretches over 24 km from Lami to Nausori. Low population densities are, to a large extent, due to low coverage of sewerage services and unfavorable conditions for septic tanks, which require unsewered lots to be more than 800m^2 and limit apartment construction. Increased sewerage coverage would not only improve public health and the environment but also enable higher population densities, reduce land pressures, stimulate investment and markedly improve the cost and efficiency of other urban infrastructure and services.

2.2.4 Informal Settlements

In 2011, an estimated 44,000 people (17% of GSA's population) occupied about 86 informal settlements in the GSA. Informal settlements are often synonymous with poverty and poor living standards, with poverty rates around 38%, the highest among all urban socio-economic strata in Fiji (World Bank Poverty Report, 2011). Informal settlements are growing at a faster rate than the average urban growth rate, and are projected to reach 52,000 population in GSA by 2020 unless there is a concerted upgrading program. The informal settlements have high demand for urban services but without legal land tenure they are not obliged to pay rates so that national government and municipal councils and are often reluctant to provide them with even basic services. These under-serviced settlements are often located in low lying or flood prone areas, and experience degraded social, economic and environmental conditions, making them even more vulnerable to the effects of rapid urban growth and climate change.

2.2.5 Fijian Villages

Fijian villages are located both within municipal boundaries and in peri-urban areas. They are managed by the village chiefs and administered through the Ministry of i-Taukei Affairs. Although they have land tenure, Fijian villages are not obliged to pay rates and often lack basic municipal services such as internal drainage, sewerage, footpaths and roads.

2.2.6 Services in Peri-Urban Areas

The present government policy is to provide services in peri-urban areas before incorporation into the adjoining municipality. However, central government has not set up the institutions or the finance to provide the other services which incorporated towns would have to provide after incorporating an area, such as paved roads, drainage, footpaths and street lighting. (Source: Urban Policy Action Plan). As a result this basic infrastructure is often lacking.

2.2.7 Collection of Rates

The growing level of arrears in the collection of rates is a matter of growing concern. These arrears have mounted to serious levels due to less than optimal collection of the annual rate and the low level of collection of the outstanding rate. The level of collection of the annual rate is generally 60-70% and the collection of arrears 10-20%. In order to collect the rates arrears, councils have recourse to the law, which allows the charging of a 10 per cent interest on all outstanding rates and the power to repossess property for this purpose. However, the legal mechanisms are rather cumbersome and inefficient. In general, municipal councils are unable to collect rates from the residents of informal settlements, Fiji villages or per-urban residents, although the residents benefit through using common municipal services such as roads, urban transport and area drainage. Typically these three groups represent about 30% of the GSA population, Combined with low rates collection efficiency this has an adverse effect on the level to which the councils are able to fund capital works and maintenance for urban services throughout the entire council area.

2.3 Urban Development Governance

2.3.1 Ministry of Local Government

In Fiji, Government policy making is concentrated at the national level. The ministry having primary responsibility for urban development is the Ministry of Local Government Urban

Development Housing and Environment (MLGUDHE). The MLGUDHE administers the Local Government Act and has four departments, namely: (i) Department of Local Government (DLG) which is mainly concerned with monitoring the performance of municipal councils, but has little influence on urban development policy; (ii) Department of Town and Country Planning (DTCP) which is responsible for town plans and development approvals; (iii) Department of Environment (DOE) which is responsible for implementing Fiji's environmental policies, programmes and legislation and manages the contract for GSA's solid waste landfill, and; (iv) the Department of Housing (DOH) which is concerned with housing policy and administers Government housing and informal settlement upgrading programmes.

2.3.2 Municipal Councils

Municipal councils are responsible for urban services such as local planning and development, maintenance of municipal roads and drainage, solid waste collection, minor dredging of waterways, provision of community markets, bus stop and stand infrastructure, taxi stands, parking, issue of local business licences, maintenance of parks and gardens, and landscaping. In addition, they undertake health inspections and approve relevant aspects of town planning applications. The councils operate under the Local Government Act, but are also governed by other acts such as the Public Health Act and Town Planning Act. Suva City Council is the only GSA council with its own by laws and with the resources to prepare its town plan.

Municipal councils provide urban services to residents using funds generated from collected revenues mainly from land rates and garbage fees. Additional revenues are collected from levies/fees received from the private sector for use of community market stalls, bus and taxi facilities and other minor rentals from council owned buildings, for business licenses and development applications. However, these additional revenues are relatively minor. Council rates collection efficiencies are 25-75%[2], due largely to inability of residents to pay and a perception of poor levels of service provided by the Councils. This cycle is self perpetuating and is unlikely to improve with the current processes in place. MLGUDHE does not provide grants or formal assistance to Councils[3]; however the national government provides indirect subsidies for waste disposal at Naboro landfill and road maintenance through the Central Coordination Agency for Roads (CCAR) under the Ministry of Finance.

Councils have limited powers under the various acts and by-laws which adversely impacts their ability to deliver urban services efficiently. Councils (i) do not have the autonomy set land rates or solid waste collection fees to cover the proper, full cost of urban services; (ii) lack the means to enforce laws and regulations due to limited resources and mechanisms to prosecute and fine offenders, and; (iii) often have little input to major development decisions made by national government, and; (iv) have little input to investment plans by other urban services providers such as WAF. While the councils are responsive to ratepayer's needs and demands, they lack full accountability to their constituents, because under the current government, there are no council elections, and both the Special Administrator (equivalent to city mayor) and the Chief Executive Officer are appointed by the Minister of MLGUDHE. Ministerial directives to Councils are conveyed to the Special Administrators and Chief Executive Officers via the Director of Local Government. Many of the above shortcomings are recognised by the MLGUDHE Strategic Plan, 2011-14 which plans to review the Local Government Act and delegate powers of the Director of Town and Country Planning to municipal councils.

2.4 Initial Urban Poverty and Social Assessment

About a third of Fiji's population and an estimated 20% of GSA residents live in poverty.[4] Poverty rates for informal settlements are among the highest. On average, GSA's informal

[2] Suva City Council collection rates are approximately 70% while that of Nasinu Town Council are approximately 25%.
[3] Following the Urban Growth Management Plan a "Challenge Fund" was introduced as a catalyst for infrastructure development, but was cancelled after a few years because of the limited financial capacity of Councils to contribute.
[4] Based on Central/Eastern urban poverty level in "Poverty Trends, profiles and Small Area Estimations in Republic of Fiji (2003-2009)". World Bank 2011.

settlements have an overall poverty rate of 38%. Poor and low income households in informal settlements are seriously disadvantaged as they have very limited access to infrastructure services especially urban transport and other essential utilities such as drainage, sewerage, and waste collection services. In addition, they have very limited opportunity for income-generating activities and employment. Moreover, social problems such as broken marriages, fragmentation of the extended family system, crime, prostitution, drugs and poor health are common and add to the social difficulties facing households in these communities.[5]

The urban poor in informal settlements do not participate in government investment decisions in any significant way because they are not integrated into the mainstream of social, economic and political[6] life. Municipal councils provide very limited urban services to informal settlements, because most of the residents do not pay rates or meet other municipal obligations. However, informal settlements are receiving greater recognition following establishment of the Informal Settlement Upgrading Unit under DOH with specific responsibility to improve living conditions and economic opportunities for these marginalised households. The Upgrading Unit is increasingly using participatory approaches for settlement upgrading, often with assistance from NGOs which promote community-driven approaches.

Despite these recent changes, informal settlements play only a minimal role in civic governance as they do not have representatives in council or government. As a result, the informal sector is either marginalized or ignored altogether. The councils consult stakeholders from the formal sector but there is no recognized local level governance structure to involve communities in the decision making process or to engage them in civic governance.

2.5 Environmental and Climate Change Issues

2.5.1 Impacts of Urbanization on GSA's Environment

Sustained urban population growth over the past 20 years, driven by rural-urban migration, means that the GSA now has to deal with urban environmental problems of urban poverty, informal settlements, over-taxed infrastructure, crime, congestion and pollution. The fragmented management of GSA's urban environment compounds the problems, partly because of weak links between the national and local government authorities on environmental issues. as well as the limited power vested in municipal councils. A continuous urban corridor now stretches 24 km from Lami to Nausori, making up most of the GSA and containing Fiji's main urban population concentrations. These include the rapidly growing urban centres of Nasinu and Nausori and several industrial subdivisions. Fortunately, GSA does not have industrial pollution associated with heavy manufacturing, nor the levels of congestion or air pollution witnessed in many Asian cities. Nevertheless, the GSA's environmental problems are becoming more severe. In order to avoid the problems created by industrialization and urbanization, it will be necessary to set up a proactive planning approach to integrating environmental issues into urban development decision-making.

Without adequate urban planning, management and infrastructure development, urbanization will worsen environmental and living conditions in the GSA. Problem areas include: (i) climate change and increased frequency of severe weather events; (ii) informal settlement on sensitive and vulnerable areas; (iii) uncontrolled development of foreshores leading to loss of coastal resources and increased vulnerability to tsunamis and cyclones; (iv) low sewerage service levels and associated pollution of urban areas; (v) increased traffic congestion; (v) air pollution and noise pollution; (vi) indiscriminate solid waste dumping and inefficient waste transport; (vii) overloading of drainage systems and increased flooding. Further information on the existing GSA environment is in Appendix 3. Well planned urban areas, stronger

[5] The Shanty Towns of Fiji, D Lingam, Department of Public Health, Fiji School of Medicine (post 2008).
[6] As there are no council elections or members of parliament under the current Government of Fiji, there is no level of influence these households can bring to bear on the decisions and priorities of Councils or the national Government.

development and building regulations and the enforcement of development planning controls are needed to ensure that negative environmental impacts of urbanization are minimized.

2.5.2 Climate Change

Fiji has a high level of vulnerability to natural disasters. The GSA is already affected by human-impacts on the coastal zone. High population growth rates, intensive urban development, deforestation of catchments, pollution and increased exploitation of biological and physical coastal resources have exposed large areas of coast to erosion and increased flooding. Accordingly: (i) coastal systems have reduced resilience to cope with climate variability or to adapt to climate change, sea-level rise and human activities, and; (ii) coastal populations and their assets are exposed to higher vulnerability to extreme events such as storm surges, tsunamis, high tides, and sea level rise. The proposed Project will address climate change impacts through climate adaptation using both engineering and non-engineering measures.

2.6 Capacity Development Assessment

2.6.1 Current Situation

Since 1987 there has been a constant out-migration from Fiji of professionals, skilled technicians, trade apprentices and tradespersons to overseas countries, which has resulted a critical shortage of professionals and skilled personnel. Even post secondary educational institutions experience difficulty in recruiting academics to address these skills shortages. In the urban development sector the four GSA councils face a serious shortage of qualified town planners[7], civil and drainage engineers, transport engineers, surveyors, urban transport planners, and project management specialists. It is a key institutional aspect which is slowly but surely reducing the capacity of Government to provide for and maintain an adequate level of urban infrastructure. This is one of the greatest risks for implementing and maintaining a sustainable MTIIP.

Government's current policy on staffing, implemented through Public Service Commission, is "right-sizing" the public sector which mainly involves downsizing. It is difficult to fill a new position or vacant position with qualified staff because of budgetary constraints. There is little capacity development taking place, except that senior staff transfer knowledge and skills to junior staff through in-house training, counselling and mentoring. On-the-job upgrading of skills through part-time courses at local educational institutions also occurs. However, due to a shortage of skilled lecturers in the higher educational system, this training is largely inadequate for positions requiring a high degree of analytical skill.

2.6.2 Capacity Development for Project Implementation

The MLGUDHE and municipal councils have little experience with externally funded projects. They have limited technical and managerial capacity to manage projects of this nature and magnitude and will require strengthening in four key areas, namely: (i) procurement; (ii) project management; (iii) drainage engineering, design and O&M, and (iii) project finance/accounting. To be successful this capacity development needs to be delivered by experienced specialist and sustained throughout the project implementation period. Capacity limitations represent a major risk to successful project implementation, operations and maintenance. In this respect, a number of actions to address this are required. In summary these include (i) securing external expertise to assist in delivering the project, (ii) ensure this expertise is transferred to Government in a measured and accountable way, and (iii) Government provide the support for this process to occur. These actions are discussed in more detail in Appendix 4.

[7] SCC has a part time town planner and an acting city planner. There are no city planners in the other three Councils.

3 The Investment Project

3.1 Project Rationale

3.1.1 Current Situation

The GSA is Fiji's largest urban center and the country's capital. It has grown significantly over the past twenty years to become the main administrative, business, tourism and economic growth centre in Fiji and the South Pacific Region. Its estimated population of 256,000 in 2011 is forecast to reach almost 300,000 within the next decade, a 16% increase. The urban sector accounts for about 60% of Fiji's GDP, with GSA's contribution estimated at around 40%. (Sources: Strategic Development Plan 2007-11 and consultant's estimates) The GSA economy is diversified and has proven to be more resilient to external shocks than other regions of Fiji. With the decline in agriculture's contribution to GDP and uncertain tourism outlook, the GSA is expected to contribute a greater proportion of GDP in future and to become increasingly important to the national economy. Despite its growth opportunities, GSA is experiencing rapid environmental degradation as a result of urbanization and economic growth pressures. The gap between urban services capacity and demand is widening. Improvement of basic urban and environmental infrastructure and strengthening of local capacity to plan and manage urban growth are key steps in developing GSA as a sustainable, liveable, and competitive urban centre.

The Project helps to enhance GSA's role as an economic centre and improve its competitiveness in the region through prioritized investments in urban infrastructure and services. It responds to the GSA councils' vision for GSA to become a *"well serviced and economically vibrant"* [8]urban area. The Project will also improve environmental conditions, public health and quality of life of the GSA's residents and visitors.

3.1.2 Urban Issues and Challenges

Urbanization: Urbanization in GSA is taking place with weak coordination between sector agencies, insufficient infrastructure and limited consideration for the environment. The results include uncoordinated development, inefficient land use, damage and loss of natural resources, and inadequate access to urban services. The problems can be attributed partly to poor urban management, little strategic spatial planning, poor connectivity between urban planning and environmental management, and insufficient investment in infrastructure and community services. A limited but growing awareness of climate change issues is also resulting in unchecked growth of greenhouse gas emissions and a lack of climate change preparedness. Rapid urbanization of the GSA is placing enormous pressure on the drainage systems.

Urbanization interferes with natural flood and drainage patterns, increases the magnitude and frequency of floods and raises the risk to people, property, social and economic activities. Impacts of urbanization on flooding in the GSA include: (i) filling of land, building and infrastructure construction resulting in higher flood levels, greater flood velocities and increased downstream siltation due to confinement of rivers, reduction in flood storage in floodplains and increased runoff from impermeable surfaces; (ii) construction of artificial drainage networks significantly increases flow velocities; (iii) inadequate drain capacity and limited coverage causes increased flooding and uncontrolled transfer of stormwater from one urban area to another area; (iv) occupation of riverbanks and flood plains places residents at increased risk, and; (v) mixing of wastewater and floodwaters increases risk of human contact with contaminated flood water.

[8] The collective goal of the four Councils in the submission to CDIA for assistance with this TA.

Pro-poor Focus: The urban poor in informal settlements suffer disproportionately from inadequate provision, management and maintenance of urban infrastructure and services. Underinvestment in infrastructure, especially in low-lying areas where the poor reside, and insufficient O&M of existing drains have an adverse impact on their health, well-being and access to jobs and services. The poor are more exposed to risks associated with externalities in service provision, as they are less able to cope with the effects of inadequate drainage and sanitation, flooding, and poor road access. About 20% of total households and 38% in informal settlements in the GSA live below the poverty line. The Project is inclusive and specifically targets drainage and flood management improvements that will benefit seven informal settlements with more than 7,000 residents. Most of these settlements are located in low-lying areas, where the poor and low-income households stand to benefit significantly from improved drainage and flood management and related improvements in sanitation.

Land Use Plans: GSA land use plans have had limited success in guiding and managing development. They tend to be physical plans that are rarely updated and difficult to enforce. They are ineffective tools for controlling development and particularly weak in (i) maintaining zoned open spaces, essential for natural drainage, retention of stormwater and (ii) in controlling development in hazardous areas. Moreover, they are often prepared with limited local consultations. The Project will strengthen urban planning and management capacity and develop priority urban infrastructure to help support the GSA's economic growth and protect GSA from the risks of increased flooding due to poor drainage, river embankment erosion, and riverine flooding.

Drainage and Flood Infrastructure: The formal drainage systems in the four municipalities are comprehensive. They comprise mainly roadside drains with cross culverts in formal developed areas and unlined open drains which convey stormwater runoff from roads and from upstream catchments to channels, streams or the sea. The purpose of roadside drains is to drain stormwater from the carriageway and protect the road edge and pavement. The scope of the drainage system is much wider than roadside drains, although it is the latter that receives most attention in terms of funding for development and maintenance. The drainage system covers the whole drainage catchment, including upstream rural and urban catchments, cross-country drains, channels, streams and rivers. Drainage infrastructure in informal settlements, native villages and peri-urban areas is generally of much lower standard and coverage than in formal town areas, leading to poor environmental and sanitation conditions. Many informal settlements are located on reclaimed land or in flood prone areas where they are vulnerable to tsunamis, storm surge, river flooding or inundation by stormwater mixed with wastewater from other areas.

Integrated Catchment Management: As the GSA grows it will become increasingly difficult and costly to rely exclusively on structural measures such as construction of larger drains and channel dredging to improve drainage and relieve flooding. Sustainable drainage requires an integrated catchment approach whereby actions are implemented over the whole water catchment to minimize impacts on flow patterns and control pollution and erosion. A broad range of engineering and non-engineering measures are required. Non-engineering measures include a range of catchment-wide initiatives to mitigate the threat of flooding, covering urban planning and drainage master planning to complement land use plans; proper land use planning, improved upstream forestry and farming practices, flood plain zoning and regulations, flood proofing of buildings, possible relocation of households from flood prone areas, hazard and risk mapping, stronger building and development controls, flood forecasting, disaster preparedness and ecosystem conservation to preserve natural resources such as green areas and natural retention basins. The Project addresses sustainable drainage on an integrated catchment management basis, through both engineering and non-engineering measures which include institutional and policy reforms and capacity development.

Management of Urban Drainage: Unclear legislation and weak urban management are major challenges to providing quality and sustainable urban drainage services in the GSA. Five main items of legislation govern urban drainage, namely: the Local Government Act, Public Health Act, Drainage Act, Fiji Road Authority Decree and council by-laws.

In 2011-2012, the municipal councils, six other agencies and seven ministries were involved in the development and/or management of urban drainage. Drainage problems arise because of unclear legislation; overlapping responsibilities; lack of drainage plans and asset registers which limits maintenance planning, budgeting and accountability; lack of maintenance access for open drains outside road corridors, and; inadequate maintenance budgets. The municipal councils maintain designated municipal roadside drains and drains outside road corridors. From January 2013, the Fiji Roads Authority (FRA) under the Prime Minister's Office will replace the Department of National Roads (DNR) and the Central Coordinating Agency for Roads (CCAR)[9], thereby reducing the number of concerned agencies to five, as shown in Table 3.1. The FRA is expected to be responsible for all public roads and road drainage in Fiji. Its detailed responsibilities and interface with councils are still under consideration by Government. The FRA met with MLGUDHE and councils in April 2012 to discuss the proposed transfer of municipal road ownership from the councils to the FRA. Irrespective of road ownership, responsibility for drains outside road corridors and broader catchment drainage are likely to remain with councils. The Land and Resource Management Division (LWRM) under the Ministry of Primary Industries dredges urban waterways. However, its focus is rural drainage. In practice it rarely undertakes dredging to reduce flooding in GSA urban areas, apart from Rewa River dredging which benefits rural and urban areas.

Table 3.1 - Responsibilities for Urban Drainage and Flood Management

Location	Planning and Design	Construction	Operation & Maintenance	Monitoring & Oversight
City/towns	Fiji Roads Authority City/town councils LWRM	Fiji Roads Authority City/town councils LWRM	Fiji Roads Authority City/town councils LWRM	Fiji Roads Authority City/town councils
Peri-urban areas	Fiji Roads Authority Rural Local Authorities	Fiji Roads Authority Rural Local Authorities	Fiji Roads Authority Rural Local Authorities	Lands Dept.

Notes: 1. The above responsibilities are based on the expected situation after January 2013, when the FRA commences operation. 2. The Public Works Department is also responsible for collecting hydrology data and for flood forecasting/warning for the Rewa River.

The Project design takes possible changes to the institutional framework for roads and urban drainage into account by: (i) ensuring that roles and responsibilities for urban drainage are clearly defined in legislation; (ii) assisting Government to formulate urban drainage policy and strategy; (iii) preparing drainage plans and asset registers to enable delineation of responsibilities and facilitate maintenance planning and budgeting, and; (iv) strengthening capacities within the councils and MLGUDHE to manage and deliver urban drainage services.

3.1.3 Related Policies and Strategies.

Flooding in GSA is highly visible and widespread. Nevertheless, in terms of government policy and strategies, urban drainage is a "forgotten" sector. Fiji Government's Roadmap 2009-14 and Strategic Development Plan 2007-11 do not mention urban drainage. None of the councils has urban drainage master plans nor comprehensive record plans of existing drainage networks. The Project will address these shortcomings by preparing appropriate strategies, policies and plans as described above.

[9] In 2011-12, the Department of National Roads (DNR) under MOWPTU was responsible for developing and maintaining roadside drains on government roads, and the Central Coordinating Agency for Roads (CCAR) under Ministry of Finance was responsible for maintaining and rehabilitating sealed national and municipal roads through private sector contracting. These functions will be taken over by the FRA from 2013.

The Project supports the Fiji Government's Roadmap which emphasizes: public sector reform and capacity development and greater infrastructural support as means to improve urban services and living standards; create a climate conducive to private sector development; to induce higher levels of private investment and economic growth, and; thereby support poverty reduction. The Project also follows the Strategic Development Plan 2007-11 (SDP) which focuses budget resources on (i) the core priority areas of health, education and infrastructure; (ii) promoting export growth and investment, and; (iii) ensuring that the poor and disadvantaged have better access to improved social and physical infrastructure. It is also in line with the SDP's support for the Urban Policy Action Plan (UPAP) which aims to assist in achieving an efficient, effective and sustainable urban sector that can make an optimal contribution to the social, economic and environmental development of Fiji. Its objectives include (i) the expanded capacity of local and central government in meeting mandates and stakeholders needs; (ii) improved urban infrastructure and services; (iii) responsive institutional, regulatory and policy frameworks for management of urban development

3.1.4 Poor Drainage and Flooding

The GSA is susceptible to flooding because of inadequate drainage, silted rivers or streams, frequent intense rainfall, short steep catchments, large areas of low lying developed land located adjacent to rivers, streams or the sea, limited maintenance, lack of development controls and unsustainable construction or farming practices in upstream catchments. An estimated 2,000 households and 200 businesses are flooded in GSA several times each year. Flooding is exacerbated when the receiving river or streams levels rise due to heavy rainfall or high tides, causing stormwater to backup the drainage system. Problems are also made worse by lack of drain maintenance, blockages due to siltation and discarded solid waste, and wastewater contamination by overflowing sewerage system or septic tanks. Houses in informal settlements are often elevated over sometimes deep stagnant, polluted water, creating poor environmental conditions contributing to a poor quality of life of the residents and increased health risks from water borne diseases. Erosion of land and roads also occurs due to inadequate drainage and steep gradients which result in high flow velocities.

The Project supports investments in drainage improvement and urban erosion protection and advocates for maintaining natural drainage paths and floodwater retention areas, improved building controls and catchment management practices to reduce erosion and debris which often exacerbates downstream siltation, blockages and flooding.

3.1.5 Riverbank Erosion

Riverbank erosion along the Lami and Rewa Rivers within the town boundaries is a significant problem faced by Lami and Nausori Towns. In total around 1.0km of the Lami riverbank is eroded annually, especially at outer bends, resulting in loss of valuable land and causing downstream siltation. Similarly, in Nausori, about 1.3 km of reclaimed riverside land between Mistry Lane and the new Rewa Bridge are affected by erosion. While riverbank protection is expensive, the loss of valuable riverside land and property has high social and economic impacts. Slippage of the riverbanks during floods could also occur. The Project will complement its investment in improved drainage through support to riverbank erosion protection along the Lami and Rewa Rivers.

3.1.6 River and Stream Flood Management

Flooding in the GSA also occurs when the rivers and streams rise above bank level due to heavy rain or king tides. The main reasons for riverine flooding is inadequate hydraulic capacity of river channels due to accumulation of silt and debris over many years or obstruction of the river by a road bridge such as Quaia road bridge which has inadequate waterway area, resulting in upstream erosion of private properties and upstream flooding of Quaia informal settlement. Tidal flooding also occurs in Greig Street in central Suva when king tides overtop the seawall along Nabukalou Creek, every month causing flooding of the road and footpaths. Flooding is made worse when heavy rain coincides with high tides, flooding not

only the road and footpath but also about eight shops. The Project supports one-off dredging of rivers and streams that cause riverine flooding in GSA subject to ongoing commitment by government to fund routine maintenance dredging. It also supports the raising of Nabukalou Creek seawall and raising of roads and footpaths to reduce flooding in Greig Street.

3.2 Project Impact and Outcome

The expected impact of the overall project is enhanced economic development and improved quality of life and environmental conditions in the Greater Suva Area. The expected outcome will be improved quality, reliability, coverage and efficiency of urban drainage and flood management infrastructure throughout the four GSA municipalities. This will be achieved through an integrated program of physical and non-physical investments in priority drainage and flood management infrastructure rehabilitation, improvement and extension, together with institutional and regulatory reform and capacity development.

3.3 Project Outputs

The proposed project consists of five integrated outputs listed below. The Project forms an integral part of the MTIIP which identified improved drainage and flood management and associated strengthening of institutional capacity as one of top-ranked investment priorities. Table 3.2 summarises the subprojects for Outputs 1, 2 and 3 and additional technical details are in Appendix 5. The engineering details of the drainage and flood management improvements were developed jointly by the PFS consultants and councils, and are shown on the flood maps in Appendix 10.

Output 1: improved drainage and stormwater management will reduce flooding, ponding and erosion in the urban areas of the four municipalities. It includes the construction or upgrading of 1.0km of road culverts, 0.5km of drainage pipes and box drains, 10.8 km of open drains[10], construction of 3.4km of maintenance access roads alongside existing open drains and creation of drainage easements throughout the four municipalities.

Output 2: Protected riverbanks will reduce erosion of riverbanks, provide additional security against landslips, loss of valuable riverside land and potential damage to buildings and infrastructure along the banks of the Lami River and Rewa River. It includes the placement of compacted fill and installation of stone filled gabions and reno mattresses over 1.0 km at selected sections of the Lami River (mainly at outer bends) and over 1.2 km of the Rewa River along the town area from Mistry Lane to the new Rewa Bridge. This section of the Rewa riverbank is reclaimed land adjacent to the town centre and is prone to erosion and landslips.

Output 3: Improved River and Stream Flood Management will reduce the extent and duration of flooding caused directly by rivers and large streams rising above their banks during flood or tidal events. This output will reduce tidal flooding in Greig Street, central Suva, by constructing a new seawall about 130m long; upgrading stormwater drains, installing flap gates, and raising the road pavement and footpaths. In conjunction with these works, the building owner (Fiji National Provident Fund) will need to raise the floors of eight flood-affected shops in Greig Street. The Project also includes dredging of about 7km of rivers and streams to increase the hydraulic capacities of selected sections of the Lami River, Vatuwaqa River, Wainibuku Creek and Waicuku Creek. Other works on Wainicuku Creek include lining with reno mattresses of the lower 700m and construction of a low weir with flap gates to limit Rewa River backflow and siltation of Waicuku Creek. This output also includes raising Quaia Road Bridge which obstructs flood flows and causes flooding in Quaia Settlement.

[10] Includes 4.4km of open drains with stone lining.

Output 4: Strengthened Capacity for Sector Planning and Management will focus on capacity development, policy and legislative reform for urban drainage and flood management. This output will: (i) establish a new Department for Urban Drainage in the MLGUDHE; (ii) define the roles and responsibilities of the proposed new department, municipal councils, FRA, LWRM and other agencies involved in urban drainage and flood management; (iii) develop new regulations for catchment management, hazard and flood plain zoning, building and development controls; (iv) pilot the extension of council rating system to informal settlements and urban villages, and; (vi) assist government to amend the relevant Acts and council by-laws to reflect the new institutional arrangements and regulations.

It will develop the capacities of MLGUDHE staff to formulate policy, plan, manage and coordinate urban drainage and undertake technical assessments of urban drainage and flooding to fill an existing gap in the technical capacities of DTCP and councils. The technical services of the new department would be available to the councils on a user-pays basis. Capacity development for council staff will focus on assisting the councils to improve their planning, asset management, budgeting, operational and financial performance. It will also include basic policy, technical assessment and design of urban drainage. This output may also include support to provide engineering or environmental graduates from University of the South Pacific with an opportunity to acquire practical skills through internships with the PIU.

Photo: Removal of floodwater in Greig Street central Suva, caused by high tide in Nabukalou Creek and heavy rain. Greig Street is flooded about 80 times/year, while 8 shops are flooded 2-3 times/year. The seawall needs to be raised.

Photo: Balgovinda main drain in Nasinu is choked with debris, silt and vegetation due to lack of maintenance access, causing upstream flooding. A 3km long gravel maintenance access road is needed alongside the drain.

Output 5: Strengthened Capacity for Project Implementation will focus on capacity development of MLGUDHE, council and FRA staff for efficient and effective project implementation. It will cover project management, procurement, financial management, project planning, design and supervision, gender and community development, environmental and social safeguards and project monitoring. The PIU will receive support from three individual consultants with expertise in procurement, project management, drainage planning and design, and project financial management who will assist the PIU and provide on-the-job and formal training to PIU staff. The PIU will also recruit a consulting firm to provide design and construction supervision services, prepare drainage master plans, GIS maps and asset registers for the four GSA councils.

3.4 Technical and Climate Change Aspects

3.4.1 Technical Issues

The project provides urban drainage improvements for both municipal and community-level infrastructure that will enhance the GSA urban environment through the selection of appropriate technologies focused on durability and sustainability. The improvements target priority areas where there is maximum impact on local communities and the environment, such as targeted riverbank protection, drainage in low-lying and flooded areas, and improved

access for drainage maintenance, including (i) creation of maintenance access roads and easements; (ii) lining of open drains to facilitate removal of silt and debris, and; (iii) enlarging open drains to enable access by small earthmoving plant. Appropriate engineering solutions for infrastructure are based on technical viability and compatibility with local conditions, particularly with respect to local capacity in operations and maintenance.

3.4.2 Climate Change Adaptation

Climate change adaptation measures incorporated in the Project will include: increased minimum pipe sizes to enable improved flushing and minimize accumulation of silt; increased frequency of maintenance with proper O&M costs in council's annual budget to address increased accumulation of silt and debris. Awareness campaigns during project implementation will encourage householders to raise solid waste coverage to 100% in municipal areas to minimize potential for blockage of drains.

3.5 Poverty and Social Impacts

3.5.1 Project Benefits and Beneficiaries

The Project will enhance the urban environment, improve public health, support economic development and contribute to better quality, coverage and reliability of drainage and flood management services for an estimated 290,000 people in the GSA by 2018. The Project is designed reduce the frequency, duration and height of annual flooding. It will not eliminate flooding due to rivers rising above their banks in major cyclones, but the improved drains will help to remove floodwaters more quickly when the river levels subside. Flood impacts were assessed jointly by the PFS consultants and councils by preparing flood maps as shown in Appendix 10. The Project will provide direct benefits in the form of reduced flooding for an estimated 1,472 households and 170 businesses which are currently flooded several times each year. (See Table 3.2). It will also bring about qualitative improvement in the lives and health of around 540 poor and low income households which are severely flooded several times each year by stormwater contaminated with wastewater.

Benefits of the Project include:(i) reduced flood related diseases and illnesses such as dengue fever, typhoid and diarrhoea and reduced medical expenses; (ii) reduced damage to private property and public infrastructure such as roads; (iii) less disruption to households and businesses; (iii) fewer lost working days and impacts on household income, and; (iv) improved accessibility, which may be otherwise hampered by constant flooding. The riverbank erosion protection will reduce the vulnerabilities of households, and loss of valuable land due to erosion and land slips along the Lami and Rewa riverbanks.

The Project is also expected to have a substantial beneficial impact on economic development by creating an improved environment for investment, creating flood-free land for development and reducing economic losses due to flooding.

3.5.2 Gender Aspects

About 50% of GSA's total population is female. The project is likely to deliver tangible benefits to women by: (i) improving their access to basic urban infrastructure and services; (ii) reducing the amount of time that they spend in preparing for floods, cleaning up after floods and caring for family members whose health is adversely affected by floodwater and ponding. The Project is expected to include specific actions and targets that contribute to gender equality and women's empowerment, including equal opportunities to access capacity development programs, to enhance gender equity and women's empowerment in urban institutions, to increase female representation in project implementation structures and consultation groups, to allocate employment for women generated through community-driven urban environmental improvements, and equal access to student internships available in PMU and PIUs.

Table 3.2 - List of Subprojects and Direct Beneficiaries

No	Project Description	Problems	Output No	Directly Flooded HH or Facilities		
				HH (No)	Business, Industry (No)	Public Roads (m)
	LAMI TOWN					
1	Lami Riverbank Erosion Protection	Bank erosion	2	30		
2	Qauia Bridge Raising	Flooding, erosion	3	40		80
3	Lami Town Center Drainage Improvements	Flooding	1	12	17 shops	500
4	Central Ward Drainage Improvements	Flooding, erosion	1	9	7 industries	180
5	Delainavesi Drainage Improvements	Flooding, erosion	1	15	0	250
6	Kalekana Settlement Drainage Improvements	Erosion, ponding	1	20		
7	Koronivono Settlement Drainage Improvements	Flooding	1	4		30
	SUBTOTAL			**130**	**24**	**1,040**
	SUVA CITY					
1	Nabukalou Creek Flood Management (Greig St)	Flooding	3		8 shops, carpk	150
2	Lower Laucala Bay Drainage (QE Drive)	Flooding	1		9 businesses	350
3	Mukta Ben Place Drainage Improvements	Flooding	1	50	2 schools	700
4	Vatuwaqa River (Wailea Settlement Flood Mgt	Flooding	1	760	20 industries	320
	SUBTOTAL			**810**	**40**	**1,520**
	NASINU TOWN					
1	Wainibuku Creek Flood Management (River Rd)	Flooding	3	56		80
2	Narere Drainage Improvements (Kelland Rd)	Flooding	1	14		210
3	Balgovinda Main Drain Improvements	Flooding	1	42		420
4	Nadawa Drainage Improvements (Nadawa Rd)	Flooding	1	74		520
5	Makoi Drainage Improvements (Aurora Ave)	Flooding	1		6 industries	
6	Nadera Drainage Improvements (Sagali Rd)	Flooding	1	6		30
	SUBTOTAL			**192**	**6**	**1,260**
	NAUSORI TOWN					
1	CBD North to Manoca Drainage Improvements	Flooding	1	34	49 industry	1420
2	Waicuku Creek Flood Management	Flooding	3	103	49 businesses	400
3	CBD South to Naiyala Drainage Improvements	Flooding	1	91	School, stadium	1,850
4	Town Riverbank Protection (Mistry L. to Bridge)	Bank erosion	2		CBD, industries	
5	Davuilevu Drainage Improvements	Flooding, erosion	1	59		1740
6	West Area Drainage Improvements	Flooding	1	53		
	SUBTOTAL			**340**	**100**	**5,620**
	TOTALS			**1,472**	**170**	**9,440**

Note: Direct beneficiaries include an estimated 540 flooded households in informal settlements and 135 flooded households in Fijian villages.

3.6 Land Acquisition and Compensation

An initial assessment indicates that land acquisition and compensation (LAC) requirements for the Project are minor. The physical works involve linear elements such as road culverts, drains, riverbank protection and river or stream dredging, which occupy about 16.1 ha of land in total, 97% of which is within existing drainage easements, river or creek reserves, road corridors, state land or natural streams, under control of councils, DNR or Department of Lands. The community-driven drainage improvements are located on native land or crown land, however, no land acquisition or compensation is foreseen as the works will be planned and implemented by the communities themselves.

About 0.5ha of easements will need to be acquired for maintenance access roads in Nasinu and Nausori on leased crown land or private land. In River Road Settlement, 10 households that are severely affected by annual flooding of Wainibuku Creek. should be assisted to move to a safe location as they are sited on flood-prone land. During construction of the works, it will be necessary to obtain temporary access to private land, leased crown and native land for the purpose of construction, storage of equipment and material excavated from drains or streams. The construction activities will be carried out in full consultation with land owners and local communities and will be led by council community development officers.

During the Project Feasibility Study, a Land Acquisition and Compensation Plan (LACP) will be prepared to ensure that affected households are treated fairly. Land acquisition, compensation, and relocation will be carried out in accordance with the development agency policy on involuntary resettlement, Government laws, and approved resettlement plans.

3.7 Project Costs

The estimated total project investment cost is F$23.4 million ($US13.2 million). A breakdown is in Table 3.3 and additional information[11] is contained in Appendix 6.

Table 3.3 - Estimated Project Cost in $million

Item	Project Cost per Municipality in F$m				Total	Total
	Lami	Suva	Nasinu	Nausori	F$m	US$m
1. Improved Drainage & Stormwater Management	1.5	1.4	1.4	1.4	5.7	3.2
2. Protected Riverbanks	0.8	-	-	1.4	2.2	1.3
3. Improved River & Stream Flood Management	1.5	2.3	0.6	1.5	5.9	3.3
4. Strengthened Planning & Management Capacity	0.3	0.3	0.1	0.3	1.0	0.6
5. Strengthened Capacity for Project Implementation	0.7	0.7	0.4	0.8	2.5	1.4
6. Total Estimated Base Costs	**4.8**	**4.5**	**2.5**	**5.5**	**17.4**	**9.8**
7. Physical & Price Contingencies	1.7	1.6	0.9	1.9	6.1	3.4
8. Total Estimated Project Cost	**6.5**	**6.1**	**3.4**	**7.4**	**23.4**	**13.2**

Notes: 1. Exchange rate: US$1.00 = F$1.77. 2. Includes taxes and duties. 3. Based on April 2012 prices.

3.8 O&M Costs

Operation and maintenance activities for the Project facilities include planning, management, budgeting, routine inspection of drains, supervision of workers and contractors and physical works such as: (i) removal of silt, debris, solid waste and vegetation from drains and pits several times throughout the year; (ii) grass cutting in and adjacent to drains; (iii) repair or replacement of damaged linings, drain pipes, pits, collapsed drain and riverbank protection, and; (iv) dredging of rivers and streams every 3-5 years. The estimated annual cost of O&M of the Project's drainage and flood management systems is about 2% of base investment costs.

3.9 Community Participation

The community-driven environmental improvements will allow communities to prioritize their urban environmental needs and develop solutions as a community. This will help build local awareness and ownership in making and sustaining the GSA as a clean and green region. The Project will improve the overall attractiveness of the GSA which will contribute to a sustainable economic environment for investment and growth, thereby allowing its residents to benefit from the commercial and employment opportunities that arise. The Project will encourage community participation in planning and implementation of drainage works, in partnership with the GSA councils. This will have a long term benefit for community relations. Project implementation will benefit the local construction industry, generating significant direct and indirect employment opportunities. It is expected that new permanent jobs will be created in the four councils to meet service expansion.

[11] These cost estimates are preliminary and were constrained by the shortage CDIA Consultant Team resources.

4 Cross Cutting Issues

4.1 Governance

4.1.1 Urban Drainage Sector Strengthening

An institutional analysis revealed the need to reform key legislation relating to urban drainage and to clearly define the roles and responsibilities of the councils, Fiji Roads Authority (FRA), LWRM and other agencies involved in managing, operating and maintaining the drainage network and urban waterways. To address these issues, the Project will assist Government to reform key legislation relating to the urban drainage sector[12] to clearly define responsibilities of agencies involved in the urban sector. It will also help Government to: (i) establish and develop the capacity of a new Department of Urban Drainage (DURD) in MLGUDHE, which will be responsible for urban drainage sector policy, strategy, coordination, monitoring and technical support; (ii) formulate urban drainage sector policy, strategy and investment plans, ensuring that they are fully integrated with National policies and plans; (iii) develop urban drainage master plans covering municipal and peri-urban areas; (iv) prepare record plans of the urban drainage networks integrated with the Fiji Land Information System, and; (v) compile drainage asset registers. The drainage record plans and asset registers will help to define responsibilities between the councils and other agencies, and form the basis for preparing proper operation and maintenance plans and associated budgets for urban drainage and waterway dredging.

An institutional strengthening and capacity development program is included in the Project to improve the planning, management and operational capacities for urban drainage and flood management in MLGUDHE, DURD and councils.

4.1.2 Project Implementation Capacity Strengthening

The executing and implementing agencies selected for the Project have limited capacity to undertake international and national competitive bidding for civil works packages and to manage externally funded projects. To help strengthen staff, a capacity development program is needed including training in project management, financial management, procurement and disbursements. Consultants with experience in implementing externally assisted projects will help PMUs and PIUs establish effective project management.

A range of multi-stakeholder consultations will be conducted during the project preparation, detailed design and implementation, including interviews with local community members and government officials, household surveys of expected project beneficiaries and affected persons, and focus-group discussions.

4.1.3 Fiji Roads Authority

From January 2013, the FRA may take-over ownership, management and maintenance of municipal roads and associated drains which are currently under council jurisdiction. This take-over poses a potential risk to: (i) loss of assets, resources, and jobs at council level, and; (ii) loss of council rates because ratepayers' willingness to pay rates is often directly related to service levels, particularly the standards of local roads, drains and footpaths. For these reasons, any take-over should ensure that transfer of assets and liabilities in undertaken in an appropriate way with regard to continuity of service delivery, and does not leave the councils with: (i) a large staff retrenchment liability without compensation, (ii) redundant plant and equipment, and; (iii) reduced willingness to pay general rates on the part of council ratepayers.

[12] The key items of legislation to be reformed include including the Local Government Act, Drainage Act, Public Health Act, Town and Country Planning Act and council by-laws,

4.2 Informal Settlements and Urban Villages

4.2.1 Drainage Improvements in Informal Settlements

The Project investments are targeted to improve the living conditions of an estimated 1,221 urban poor and low-income households in seven informal settlements, thereby maximizing the potential benefits. An estimated 540 households in these settlements are flooded every year. The proposed works will specifically benefit poor households in low-lying flood-prone areas at Wailea, River Road and Quaia Settlements who are most vulnerable to flooding, exposure to floodwater and wastewater, loss of property, loss of accessibility, disruption and water related diseases.

The Project's benefits will be realized through: (i) area drainage and flood management improvements and; (ii) community-driven drainage improvements. Area drainage improvements include upgrading of primary and secondary urban drains and dredging of rivers and streams located within or adjacent to the settlements to reduce flooding and ponding within the settlements and in the surrounding urban areas.

The Project also includes community-driven drainage improvements within the settlements through grants which help to reinforce the links between urban environmental improvements, health and well-being. The community-driven drainage improvements respond to the needs of the targeted settlements. The communities themselves will be responsible for planning, design and implementation of cost-effective and appropriate drainage improvements such as tertiary drains and paved walkways. The drainage works will be developed through direct engagement with the communities, supported by councils' technical, community services and health staff. The communities are expected to contribute to implementation by providing labour and or cash, thereby maximizing the benefits from the Project.

Table 4.1 - Informal Settlements That Will Benefit from the Project

Settlement Name	Total No of Households	Area Drainage or Flood Management Improvements	Community- Driven Drainage Improvements
Koronivono	20	20	
Kalekana	288		288
Qauia	235	235	
Wailea	299	299	
River Road	299	299	
Salim Street	25		25
Bangladesh	55		55
TOTAL	**1,221**	**853**	**368**

Note: Includes an estimated 540 households in informal settlements that are directly affected by flooding.

4.2.1 Fijian Villages

The Project will also benefit an estimated 135 households in Nausori, Nadali and several other urban villages which are affected by flooding and poor drainage. Although urban Fijian villages are located within municipal areas and have land tenure, they have limited access to urban services such as house-to-house solid waste collection, internal roads and formal drainage. The benefits will be realised through area drainage improvements and community-driven drainage improvements as described above. The Project specifically targets drainage improvements in Nausori Urban Village as a pilot for service provision to Fijian villages. This initiative supports MLGUDHE's Strategic Plan 2011-2014 which envisages development of Standard Operating Procedures for planning of urban villages.

4.2.2 Levying Rates on Informal Settlements and Urban Villages

General: Informal settlements, urban villages and per-urban residents constitute around 30% of the GSA population. While these groups enjoy many of the benefits from the services and

amenities provided by the councils they do not pay any municipal rates which adversely impacts councils' financial sustainability. As a result only ad hoc arrangements are made with the council for the provision of specific services such as solid waste collection.

Informal Settlements: Residents of informal settlements do not have land tenure and therefore are not required to pay council rates. Consequently, councils are reluctant to provide them with urban services as the extra costs of doing so would place an unfair burden on their existing ratepayers. The nature of informal settlements varies widely in terms of land status, degree of social cohesion, poverty level and longevity. Some informal settlements have existed for more than 40 years while others have only been in place for a matter of months or days. Levying rates on low-income, transient households living in temporary accommodation would be very difficult, but somewhat easier in the case of longstanding, well-organized and cohesive settlements. Once settlements are upgraded and land tenure, usually in the form of a lease is acquired, the status of the settlement is formalized and residents are then liable to pay full council rates.

Urban Villages: Municipal councils may, with the approval of the i-Taukei Affairs Board and the Minister, make by-laws concerning the manner in which Fijian villages may be incorporated into the municipality, for the method by which rates may be levied in the villages and for the minimum standard for building construction. Villages within municipal boundaries are assessed for special rates only for special services provided. Villages are not assessed for general rates as they are exempt under section 60 of the Local Government Act.

Recovery of O&M Costs: The Project investments may act as a catalyst for full informal settlement upgrading with land tenure in some cases. However, there is no guarantee that this will occur. In the case of partial upgrading the settlements are not obliged to pay rates and the councils may be unable to recover O&M costs of the project investments in roads, drains and flood protection works. Similarly, under existing legislation, urban villages are exempt from general rates. To address this issue, the project investments in these two areas will be developed as pilots for extending the rating system to informal settlements and urban villages. Where only partial upgrading is carried out, a range of options will be examined including demand-driven approaches whereby settlements or villages will be required to (i) enter into contracts for payment of contributions towards O&M costs as a precondition to proceeding with the project works, or: (ii) in the case of community-driven drainage, enter into contracts for community O&M of the project facilities. Extensive consultation with communities and reform of legislation concerned with rating of Fijian villages will also be necessary.

Photo: Quaia Road Bridge on the Lami River has insufficient waterway area. It obstructs flood flows and causes frequent flooding of adjacent upstream Quaia Settlement. The bridge needs to be demolished and raised to reduce flooding.

Photo: 10 houses in River Road Settlement near the WAF sewage pump station. When Wainibuku Creek floods, houses are inundated with floodwater mixed with raw sewage from the pump station. Another 56 houses are also flooded. The creek needs to be dredged and the 10 houses relocated.

5 Project Environmental Impacts

5.1 Environmental Benefits

In general, the Project is expected to make significant improvements to quality of life by upgrading infrastructure for drains and flood management. It will also provide significant benefits to the physical and ecological environment. An initial environmental assessment of the proposed Project was made to identify potential adverse environmental impacts and mitigation measures.

5.2 Environmental Impacts

The impacts are related to siting, design, construction and operation of the proposed works, and are summarised in Table 5.1:

Table 5.1 - Potential Environmental Impacts and Mitigating Measures

Potential Environmental Impacts	Mitigating Measures
1. Location of Project Activities Existing facilities, natural features, and topography dictate sites for drains and flood management infrastructure.	The four GSA councils identified flood and erosion trouble spots which will be addressed by the Project.
2. Design Aspects Drain and flood management components are designed to reduce flooding, remove stormwater and wastewater from and discharge it to rivers, thereby improving the environment and health conditions. These works will not eliminate flooding but will significantly reduce its severity and duration.	The proposed works will build on, improve and extend the existing network, using appropriate, proven engineering designs. The designs will incorporate climate change adaptation initiatives. The designs incorporate measures to facilitate maintenance, including coverage of stone or rock lined drains and creeks, and construction of maintenance access roads and easements.
3. Construction The excavation work involved in removing mud and sludge from existing drains and creeks, natural ground from new drains and its temporary storage will result in some inconvenience to adjacent residents. Issues of traffic, noise, odor and localized machinery vibration have been identified. The construction of riverbank protection and roads will also involve moving earth, with the potential for noise, dust, traffic congestion, erosion, and sediment contamination of waterways. Construction work in one area could cause temporary adverse impacts on other areas in the event of heavy rain during construction.	Proposed Environmental Management Plans will include detailed mitigation measures such as requirements for prompt removal of odorous spoil from densely populated areas and appropriate disposal, and construction of bunded areas and retention ponds to minimize siltation. The EMP will also recommend restricted working hours and monitoring noise, dust, and vibration so that work practices can be modified accordingly. Excavation or dredging work will be undertaken starting from the downstream end of a stream or drain to prevent adverse flood impacts on other parts of the catchment.
4. Operation Inadequate operation and maintenance of drains	Capacity building of councils and communities will result in a regular maintenance program for drains so they continue to perform adequately. Stronger building regulations and enforcement and improved catchment management will result in less siltation of drains.

The assessment showed that the Project is not expected to cause irreversible adverse environment impacts. Any negative environmental impacts are likely to be short-lived, minor, and limited by (i) carefully selecting project sites, (ii) implementing proposed mitigation measures, (iii) preparing an Environmental Management Plan (EMP) regularly monitoring implementation of the EMP, and (iv) appropriate capacity building at the PMU, PIU and councils. The EMPs will form part of the construction contract documents.

6 Financial and Economic Analysis

6.1 Introduction

This Chapter addresses potential mechanisms for financing the program and assesses its likely economic and financial viability.

6.2 The Financing Challenge

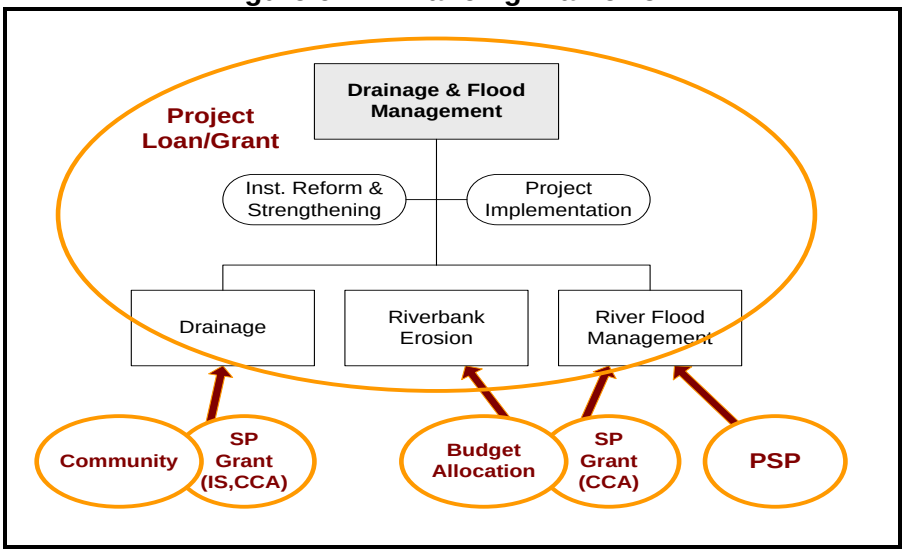
In terms of broad categories of expenditure, the challenge amounts to financing around US$ 10.5 million in capital investment and $ 2.7 million in technical assistance, plus $200,000 per year in O&M costs. Refer to Appendix 7 for further details.

A range of financing options are available, including funding by municipal councils, Ministries or State Owned Enterprises from normal operating budgets; special allocation from the Fiji Government Budget; loans/grants from development partners; commercial finance; community participation (generally through the provision of labor); and private sector participation. Drainage and flood management is generally undertaken for reasons relating to the welfare of the community and economy as a whole; and the infrastructure is generally on public or communal land. As a result, there is no direct user-pays charging mechanism for drainage and flood management, which in turn, limits opportunities for a commercial approach to financing. A more comprehensive assessment of financing options taking into account current economic, budgetary and institutional conditions in Fiji is provided in Appendix 7.

6.3 Framework for Project Financing

The key elements of the financing framework for the proposed drainage and flood management investments and technical assistance are shown in Figure 6.1. The proposed financing structure could be a stand-alone project, or integrated into a broader urban development program for GSA targeting several sectors.

Figure 6.1 - Financing Framework



Legend: Climate Change Adaptation (CCA); Global Environment Facility (GEF); Informal Settlements (IS); Private Sector Participation (PSP); Special Purpose (SP).

It involves:

- an "umbrella" loan/grant from a major development partner (most likely a Multilateral Development Bank (MDB)) that provides overall project/output management, capacity strengthening and some investment; and

- co-financing of specific investments from other sources, where there is a direct linkage between interests/objectives of the funding source and the benefits delivered.
- Recurrent O&M costs would be financed from operating budgets of relevant Councils and Ministries. Analysis undertaken for the MTIIP and this PFS indicates that local agencies have the capacity to finance sustainable O&M from future budgets, given greater attention to revenue collection efficiency. Other mechanisms that could assist with financing routine O&M costs include a special purpose levy. Large periodic maintenance (such as dredging) is likely to require special allocation from the Fiji Budget.

6.4 Financial and Economic Analysis

From an economic perspective, the Project will deliver a range of benefits, in particular:

- reduced damage to community infrastructure (especially roads) and residential/ commercial property from major floods; and downstream impacts on business and economic activity.
- health and environmental benefits in the form of reduction in injuries, disease and work time lost due to illness; increased life expectancy; a cleaner environment and reduced downstream pollution; and a general improvement in higher quality of life in GSA. These benefits are not easily quantified in monetary terms and have not been included in the economic analysis at the PFS stage.

A cost-benefit analysis was conducted to compare the economic benefits from reduced flooding; against the initial investment and ongoing maintenance costs of the project over 30 year evaluation period (consistent with the long life of the infrastructure); and discount rates of 6% and 12%. The results are summarized in Table 6.1 and Appendix 7.

Table 6.1 - Results of Economic Appraisal

Scenario	BCR	NPV (F$ m)	NPV (US$ m)
Discount rate = 6%	1.5	$11.50	$6.50
Discount rate = 12%	1	$0.25	$0.15

The results indicate that the project delivers strong positive economic returns to the community at 6% discount rate and is marginal at 12% discount rate (EIRR = 12%). Inclusion of quantified health and environmental benefits would strengthen and enhance the program's economic merit. As drainage and flood management has limited opportunities for a commercial approach, a financial evaluation was not conducted.

6.5 Conclusions

The Drainage and Flood Management Project will deliver significant social, environmental and broader economic benefits to the GSA community. The EIRR of 12% indicates an acceptable social and economic return on investment. Taking into account current economic, budgetary and institutional conditions in Fiji and the likely level of potential financing interest from available sources, the suggested financing structure involves an "umbrella" loan (or grant) from a major development partner (such as a Multilateral Development Bank) with co-financing of selected activities by other interested parties. It could be a stand-alone project or integrated into a broader urban development program for GSA targeting several sectors.

The "umbrella" loan would finance overall program/output management, capacity strengthening and some investment; while co-financing would be linked to specific investments, as described above. All O&M costs would be financed locally from operating budgets or special Budget allocation, with possible contributions from the private sector and the community (in the form of labor in informal settlements).

7 Implementation Arrangements

7.1.1 Implementation Framework

MLGUDHE is the sector agency responsible for urban planning, policy and development and is the proposed Executing Agency for the Project. The four GSA councils and FRA are the proposed implementing agencies, as they are the entities responsible for delivery of urban drainage services and O&M after Project completion. It is expected that MLGUDHE will delegate responsibility for overall project direction to a Project Steering Committee, comprising the Special Administrators and Chief Executive Officers of the Councils, representatives of MLGUDHE and FRA, together with the directors of the project management unit and project implementation units as appropriate. The MLGUDHE and the four councils have very limited experience in implementing externally assisted projects and will require support and strengthening in the form of consultants and training.

7.1.2 Options for Project Implementation

Within this implementation framework, two options were considered for detailed project implementation as shown in Figure 7.1.

Figure 7.1 - Options for Project Implementation

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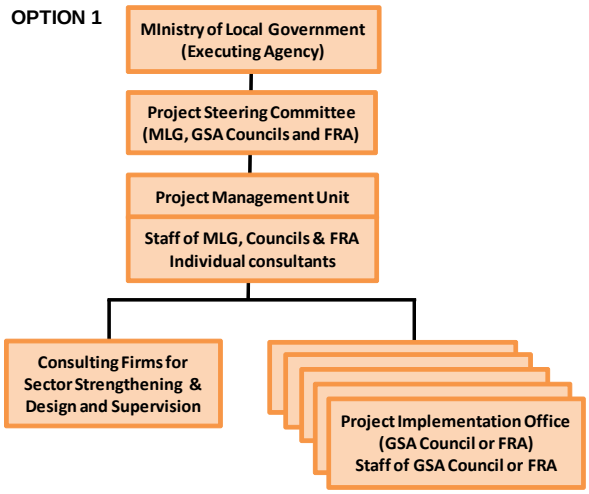
<td> 
</td>
<td>Description: PMU (incorporating council and FRA staff) responsible for overall management of the project. PIOs in the four council & FRA offices responsible for day-to-day supervision of work.
Advantages:
• Larger construction contracts offer economies of scale and potential cost savings
• Lower costs for consultants
• Lower council staff costs
• More efficient project administration and disbursement
• Best project management and procurement expertise is available for the PMU
Disadvantages:
• Council & FRA office staff receive less capacity development in project management, procurement and related procedures
• Councils have shared responsibility for project implementation</td>
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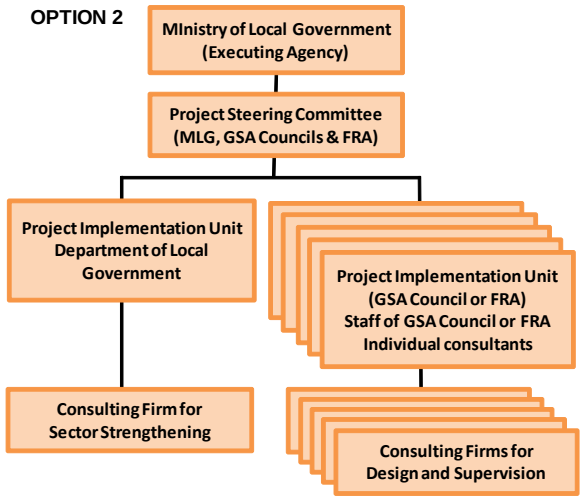
<td> 
</td>
<td>Description: PIU in each GSA council & FRA is fully responsible for managing its subproject.
Advantages:
• Council & FRA staff in PIU receive more capacity development in project management, procurement and related procedures
• Council & FRA fully responsible for implementing its own subproject
• Better communication links between project implementation unit and council
Disadvantages:
• Lack of economies of scale for civil contracts
• Higher costs for consultants
• Higher council & FRA staff costs – several full time staff required in each PIU
• Less efficient project administration, reporting and disbursement
• Limited project management and procurement expertise in councils
• Higher risk of slow disbursement and delays</td>
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Note: MLG = Ministry of Local Government, Urban Development and Environment

Option 1 involves the formation of a project management unit (PMU), responsible for overall project management, including managing construction contracts and consultants. It would be staffed by full time employees of the four councils, MLGUDHE, FRA and by individual consultants who would provide additional expertise in project management, procurement, drainage engineering and project financial management. The PMU would report to the PSC. Separate project implementing offices (PIOs) would be established in each of the four council offices and in FRA; they would participate fully in project planning and design and would be responsible for day-to-day supervision of work in their respective areas. The PIOs would report to the PMU. Council and FRA office staff would receive training in project management, construction supervision urban drainage planning, design and management.

Option 2 would establish separate project implementing units (PIUs) in the four councils and in FRA, each of which would be responsible for overall management of its subproject, including managing its contracts and its design and supervision consultants. It would be staffed by full time employees from each council, FRA and by individual consultants who would provide additional expertise. Each PIU would be responsible for planning, design and supervision of its subproject. The PIUs would report directly to the PSC. Council and FRA staff in the PIU would receive training in project management, procurement, construction supervision, urban drainage planning, design and management. A separate PIU run by DLG staff would manage the consulting firm engaged for sector strengthening. The choice between these two options for project implementation is subject to further discussion and approval of the relevant ministries and councils. Typical staffing and consulting services for Option 1 are described in Table 7.1. Additional details are in Appendix 8.

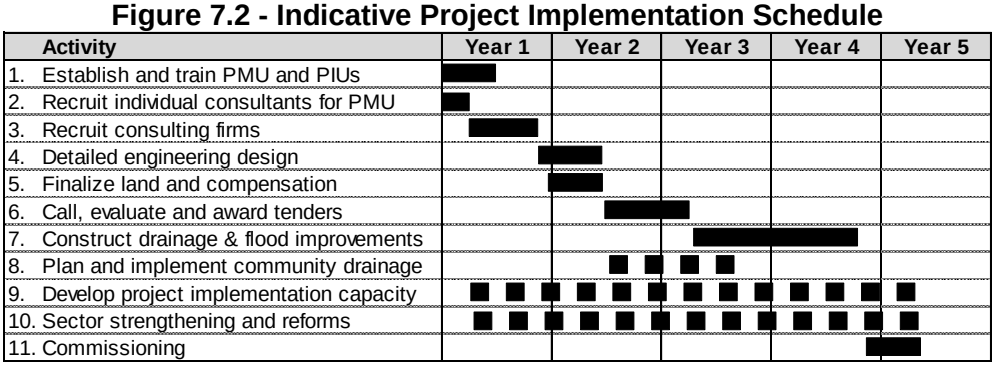
Table 7.1 - Typical Staffing for Project Implementation Option 1

Aspect	Arrangements
Project management unit – Full-time staff	PMU would comprise staff from MLGUDHE, the four GSA councils, FRA and individual consultants. Proposed staffing is as follows: Project Director and Project Deputy Director Members may include: Accountant, 2 procurement officers; 2 engineers; accounts clerk; environment officer; resettlement officer; 2 social and community development officers; 2 drivers and 1 secretary. Individual consultants within PMU may include: International Procurement Specialist, International Drainage Specialist, National Financial Management Specialist
Consulting services packages	Package 1 - Strengthened Capacity for Urban Sector Planning and Management. Consultants include Institutional Specialist/Team Leader; Municipal Engineering Specialist/ Drainage; Regulatory Specialist.
	Package 2 - Strengthened Capacity for Project Implementation. Design and Supervision Consultants include planning, design and construction supervision engineers, social specialists, environmental specialists, construction supervisors, topographic surveyors, GIS and CAD drafters, and administration staff

7.2 Implementation Period

The proposed Project is scheduled for implementation over five years from the start date of project implementation. An indicative implementation schedule is shown in Figure 7.2.

Figure 7.2 - Indicative Project Implementation Schedule



8 Risks and Mitigating Measures

8.1 Initial Risk Assessment

The main project risks include political, institutional, economic and capacity factors. The risks and mitigating measures are summarised in Table 8.1.The risks and key assumptions should be revised in any subsequent Feasibility Study for the Project.

8.2 Assumptions

The key assumptions are that: (i) democratic elections will proceed as scheduled in 2014 and will result in a stable political climate, leading to increased investment in GSA and increased funding by international development agencies, and; (ii) the national government will commit to funding any shortfalls between drainage/flood management operation and maintenance costs and council revenues through annual budget allocations, particularly for routine maintenance dredging of urban waterways.

Table 8.1 - Summary of Risks and Mitigating Measures

Risks	Mitigating Measures
National government assigns a low priority to urban infrastructure development in the GSA.	The GSA councils selected the drainage and flood management project as one of their top two priorities and have agreed to lobby government support. The GSA economy is increasing in its importance to Fiji's economic growth, prosperity and poverty reduction.
Disruptions in world financial markets and the resulting global downturn could slow Fijian growth, mostly through declines in tourism, remittances, and foreign direct investment.	Concomitant declines in oil and food prices would soften the blow for Fiji which is a commodity-importing island nation.
Government's borrowing capacity is adversely affected by natural disasters or external shocks to the economy	Government and development agencies recognize the growing importance and resilience of the GSA's economy in Fiji's overall economy and give it priority for funding
Tourism, industry and investments in GSA are adversely affected by natural disasters	The Project helps to support GSA's and Fiji's continued economic growth given the risk of natural disasters. The GSA is less susceptible to major cyclones than most other urban areas in Fiji
Communities are unaware of the links between health, hygiene, stagnant water, environmental sanitation and solid waste	The Project includes awareness activities for residents. The community-driven drainage improvements will help strengthen local responsibility for drainage.
Limited human resources and capacity of MLGUDHE and councils for project implementation	The Project includes intensive capacity development in project management, procurement and financial management. Consultants with experience in implementing externally-assisted projects will assist PMUs and PIUs to establish effective project management, procurement, reporting, and financial management procedures;
Limited human resources and capacity of MLGUDHE councils for policy making, management, operation and maintenance of the drainage network	The Project includes capacity development for policy formulation, planning and management of the urban drainage and flood management system.
Unclear legal and institutional frameworks for urban drainage and flood management adversely impacts sector sustainability	The Project includes institutional, policy and legal reforms. It proposes to establish a new Department of Urban Drainage in MLGUDHE, prepare drainage network plans and asset registers, define roles and responsibilities of government agencies involved in urban drainage and flood management and assist government to amend relevant acts and regulations
Inadequate funds for proper operation and maintenance of urban drains and waterways	The Project will strengthen councils' capacities to collect rates; prepare asset registers, operation and maintenance manuals and plans, and; prepare annual budgets for proper management, operation and maintenance of drains and waterway dredging.

9 Further Studies

9.1 Introduction

Through the CDIA process, the GSA councils have identified the priority areas to be covered under the Drainage and Flood Management Project and, with assistance of the CDIA consultants, prepared outline designs for the proposed project components. A Feasibility Study (or project preparatory technical assistance) is therefore needed to review these studies and develop a Project suitable for funding by an international funding agency in terms of technical, financial, economic, institutional, sector policy, legal, and safeguard contexts.

9.2 Standalone Project or MFF

As outlined in Chapter 6, the Project could be financed as a stand-alone project or integrated into a broader, longer term urban development program targeting several infrastructure sectors. A possible funding arrangement using a programmatic approach could include a US$150-200 million Multi-Tranche Finance Facility (MFF) over 10-15 years whereby groups of projects are implemented in successive phases or tranches. The two priority projects in drainage and flood management and in urban transport could be the 1st tranche of the proposed MFF. Other projects forming part of the MTIIP could be included in subsequent tranches. The long-term programmatic approach also provides the opportunity to assist Government with key policy reforms.

The initial sections (9.3 to 9.5) of this chapter describe the Feasibility Study requirements for a standalone Drainage and Flood Management Project, while the final section 9.6 outlines the requirements for the MFF option and associated key policy reforms.

9.3 General Scope of Services

The Feasibility for the Drainage and Flood Management Project will (i) review the PFS for the Project; (ii) review and analyze long- and medium-term urban development plans for the GSA; (iii) confirm stakeholders' demand for the project components; (iv) determine the feasibility of the proposed investments covering (a) preliminary engineering designs, (b) cost estimates and financing plan, (c) financial and economic viability and sustainability, (d) environmental and social soundness; (e) detailed implementation arrangements; (iv) prepare institutional capacity building programs, (v) prepare the project administration manual, and (vi) prepare urban drainage master plans, network record plans, asset registers and operating and maintenance plans and budgets.

The Feasibility Study will also cover consulting services and other measures to assist Government with key policy reforms, including: establishment and building the capacity of the new Department of Urban Drainage; defining the detailed responsibilities of the various agencies involved in urban drainage and flood management; formulating urban drainage sector policy, strategy and investment plans; piloting the extension of council rating systems into informal settlements and urban villages; and reform of associated key legislation.

9.4 Surveys and Data

9.4.1 Engineering Surveys

The PFS developed concept engineering designs for the proposed project based on site inspections, cadastral plans and large scale topographic maps with 20m contours. None of the councils has proper plans of their existing drainage networks. Existing topographic data and drainage network information is insufficient for a Feasibility level study and therefore additional surveys will need to be carried out in the early stages of the Feasibility Study. Necessary additional survey work will include the following tasks: (i) engage Department of Lands to prepare topographic maps with 1m contours covering the high priority drainage works and

their catchments, based on existing aerial photographs with survey control; (ii) undertake supplementary topographical surveys where required; (iii) conduct bathymetric surveys and soundings for components that involve dredging or excavation of rivers, streams and open drains, and; (iv) with council assistance, undertake topographic and condition surveys of existing drainage networks that are related to the proposed project works. The information obtained from these surveys are necessary to: (i) define catchment areas; (ii) determine hydraulic gradients and hydraulic capacities of existing and proposed drains; (iii) undertake preliminary engineering designs of the proposed works, and; (iv) prepare cost estimates with 10-15% level of accuracy as required for a Feasibility Study.

9.4.2 Stakeholder Surveys

A range of multi-stakeholder consultations will be conducted during the feasibility study preparation, including interviews with local community members and government officials, household surveys of expected project beneficiaries and affected persons, and focus-group discussions. The Project design will include a comprehensive stakeholder participation plan that will disseminate information about the project, provide education and awareness relating to improved drainage and flooding, consult community groups regarding the subproject design, provide education and training in social and environmental safeguards, and publicly disclose Project policies and procedures, particularly related to land acquisition, compensation and resettlement.

9.5 Consulting Services for Feasibility Study

The Feasibility Study would be conducted over a period of about 6 months, from the date of appointment of consultants to date of completion of the Final Feasibility Study Report. The study will require inputs by a multi-disciplinary consulting team with expertise in study and project management; drainage engineering; financial and economic assessments; institutional, sector policy and legal aspects, and safeguards, including social, gender and environmental aspects.

Table 9.1 - Preliminary Estimate of Consulting Services Requirements

International Name of Position	Person-months	National Name of Position	Person-months
Urban Drainage Specialist/ Team Leader	5.0	Civil Engineer/ Deputy Team Leader	6.0
Economist/ Municipal Finance Specialist	1.5	Institutional Development/ Capacity Building Specialist	1.5
Institutional Development Specialist	1.5	Economist	1.0
Social Development/Resettlement Specialist	1.5	Social Development/ Community Development Specialist	2.0
Environment Specialist	1.0	Environment Specialist	1.0
Gender Specialist	1.0		
Total	**11.5**	**Total**	**11.5**

The consulting team will be required to work closely with the staff of MLGUDHE, councils and FRA. It would also consult widely with other stakeholders including Ministry of Finance, other government agencies, communities including residents of informal settlements and Fijian villages. It is expected that the government and councils will establish: (i) a Steering Committee to provide guidance and direction for the Feasibility Study, and; (ii) a Project Preparation Unit comprising staff of MLGUDHE, the four councils and FRA to work with the consulting team during preparation of the Feasibility Study.

The Feasibility Study requires an estimated 6 positions and 11.5 person-months of international consulting services, and 5 positions and 11.5 person-months of national consulting services, as summarized in the Table 9.1. The consulting team would be assisted by AUTOCAD/GIS drafters, administrative staff and social surveyors. A local firm of land surveyors would be engaged to undertake topographic and bathymetric surveys.

9.6 Project Preparation for MFF

Project preparation for a possible Multi-Tranche Finance Facility would require a somewhat different approach from that for a standalone project. For the MFF, groups of projects would be prepared and implemented in successive phases or tranches. The two priority projects in drainage and flood management and in urban transport could be the 1st tranche of the proposed MFF, and in that case, a single Feasibility Study would be prepared covering the two projects.

In addition, the Feasibility Study for the 1st tranche would prepare the framework for the subsequent tranches of the MFF, including preparation of: (i) agreed project selection and eligibility criteria; (ii) guidelines for environmental and social safeguards; (iii) guidelines for feasibility studies of projects in subsequent tranches, and; (iv) implementation guidelines and implementation manual for the MFF. Typically, the selection criteria would define the infrastructure sectors, geographical locations (e.g. GSA only or all cities and towns), and conditions that would apply to candidate projects before they may be admitted to subsequent tranches of the MFF for feasibility study. The eligibility criteria would define the additional policy conditionalities and other conditions to be met by the projects after completion of feasibility studies but before they are accepted for final funding and implementation by the development partners and government.

The long-term programmatic approach available through a MFF also provides the opportunity for development partners to assist Government with policy reforms in such key areas as: (i) council rates system; (ii) recovery of unpaid rates or fees for urban services; (ii) extending rating areas into informal settlements and urban villages; (iii) land policy including urban development on native land; (iv) upgrading infrastructure in peri-urban areas prior to incorporation into council areas; (v) accelerating informal settlement upgrading using a sector approach through the MFF; (vi) strengthening the framework for urban development by reforming outdated and unclear legislation, and formulating sector policies, strategies and investment plans to ensure good governance and sector sustainability.

As mentioned above, the MFF provides a unique opportunity to accelerate informal settlement upgrading through a sector approach. Currently there are an estimated 86 informal settlements in GSA with about 44,000 residents, 17% of the total GSA population. Over the past 20 years, the Government has been upgrading informal settlements throughout Fiji, but the number of informal settlements is growing at a much faster rate than the rate of upgrading which is running at about 2-3 settlements per year in the GSA. At this rate of progress, informal settlements will continue to grow. Therefore a sector approach is needed whereby informal settlement upgrading is treated as sector in its own right, rather than being addressed on a piecemeal basis as part of an infrastructure project. The prerequisites for the sector approach include a sector policy and a sector investment plan, which could be developed as part of a Feasibility Study for one tranche of the MFF. The sector approach would give greater recognition to informal settlements and enable batches of say 5-10 informal settlement upgrades (with associated land tenure) to be included in successive tranches of the MFF, in accordance with the sector investment plan.

10 Conclusions and Recommendations

10.1 Conclusions

The preceding chapters of this PFS presented an integrated, inclusive and sustainable Drainage and Flood Management Project that adequately addresses technical, institutional, financial, economic, social, environmental and climate change factors. The PFS process involved a partnership between the city councils, PFS consultants, and the CDIA management team, "working together to identify, conceive, and structure prioritized urban development projects needed to improve living conditions" in the GSA, in accordance with CDIA Prefeasibility Guidelines, 2011.

The PFS confirms that the Project appears to be technically feasible and economically viable and does not have any irreversible adverse social or environmental impacts. It is expected to make a significant contribution to enhanced economic development, quality of life and environmental conditions and reduced poverty in the Greater Suva Area.

The Project is demand-driven as the major stakeholders, principally the four GSA councils: (i) selected the drainage and flood management project as one of the two highest priority infrastructure projects to progress to Prefeasibility level, and; (ii) identified and developed with the PFS consultants the drainage and flood management works needed to alleviate flooding, ponding and erosion problems throughout the GSA.

10.2 Focus on Informal Settlements

Flooding is widespread throughout the GSA. The proposed Project is inclusive and will benefit all GSA residents, visitors and businesses either directly or indirectly by improving quality of life, creating a climate for investment and enhancing economic growth. Those benefiting the most are an estimated 1,470 households (including 540 households in informal settlements) and 170 businesses that are flooded several times each year. About 1,220 total households in informal settlements will benefit from area drainage improvements and community-driven drainage improvements which will be selected, planned and implemented by the communities with Project support.

It is expected that the investments in drainage and flood management and related investments in urban transport may act as a catalyst for full settlement upgrading in the target settlements funded by government and international development partners. In April 2012, the Director of Housing indicated to the PFS consultants that the Project investments in River Road Settlement may trigger a full upgrading of that settlement, complete with a range of urban services and secure land tenure for its residents. It is recommended that the DOH and GSA councils identify and prioritize other informal settlements and Fijian villages that require drainage investments or full upgrading for possible inclusion in the ensuing Feasibility Study (scheduled for late 2012 or 2013), and in Government's Squatter Settlement Upgrading Program for 2014-2018. The Feasibility Study for the Project will assess the feasibility of the additional investments and identify potential sources of funds.

10.3 Recommended Next Steps

Following completion and approval of this PFS, the four GSA councils, MLGUDHE and Government will need to take further steps to ensure that the Project is prepared to Feasibility Study level, financed and implemented as a standalone project or integrated into a long term urban development program using a MFF. The recommended steps and activities are described below. The steps are interrelated and would be implemented concurrently.

Step 1 - Promotion of the Project and MFF within Government:
Purpose: Obtain Government Support for the Project, MTIIP and the MFF.
Description: Key activities include: (i) make joint council submission to MLGUDHE requesting support to secure funding and advance the two priority projects and MFF to Feasibility Study and implementation; (ii) request further support from CDIA to assist with project and MFF promotion and marketing; (iii) prepare and distribute brochures describing the priority projects and the programmatic approach; (iv) disseminate the CDIA MTIIP Final Report and the two PFS Reports to concerned Government ministries and agencies; (v) conduct Project awareness workshops with key Government agencies[13]; (vi) prepare Cabinet briefings, and; (vi) integrate the priority projects, MTIIP and MFF with the Government's Strategic Development Plan, Ministry/Department Annual Corporate Plans and the Public Sector Investment Plan[14].

The purpose of the abovementioned awareness workshops is to: (i) raise awareness of the priority projects and opportunities available to all infrastructure agencies (e.g. WAF, FRA, DOE, DOH, Fiji Electricity Authority) through the programmatic approach and MFF; (iii) identify potential development partners; (iv) agree on the scope of the programmatic approach and MFF (e.g. infrastructure sectors covered and geographical scope - GSA only or all urban areas); (v) agree on the Government's Project marketing strategy to international development agencies, including action plan and program, key marketing documents, responsible government agencies and primary contacts.

Step 2 – Marketing of the Project and MFF with Potential Development Partners:
Purpose: To inform potential international development partners about the Project, commence policy dialogue and obtain funding commitment for the Feasibility Study.
Description: Key activities include: (i) prepare and distribute brochures to interested development/funding agencies and NGOs describing the priority projects, the programmatic approach, MFF and key policy issues; (ii) disseminate the CDIA MTIIP Final Report and the two PFS Reports to development partners; (iii) conduct Project awareness workshops with key development partners; (vi) commence policy dialogue with concerned development partners covering key policy issues[15]; (vii) prepare draft Terms of Reference for Consultants for the two priority projects and for the MFF, and; (viii) execute a technical assistance agreement for Feasibility Study preparation between Government and one or more international development partners.

Step 3 – Readiness for Feasibility Study
Purpose: To prepare for the Feasibility Study
Description: Key activities include: (i) establish the structure, agree on staffing and internal funding arrangements for the Project Steering Committee and Project Preparation Unit to facilitate the ensuing Feasibility Study[16]; (ii) review with MLGUDHE and higher government authorities the establishment of a new Department of Urban Drainage; (iii) take the necessary steps to increase land rate collection efficiency and reduce arrears to demonstrate to potential development partners the councils' commitments and capacities for funding operation and maintenance of urban drainage and flood management.

[13] Participants may include: MLGUDHE (all departments), GSA councils, Ministry of Finance (and Foreign Affairs Department), National Planning Office, FRA, WAF, MOWTPU, Ministry of i-Taukei Affairs, Department of Lands and other concerned agencies
[14] These documents form Government's three-tiered strategic planning approach to development. The Public Sector Investment Plan is a pipeline of Government's planned capital investment, including ongoing, new and aid funded projects over 3 years. The PSIP is updated annually.
[15] Key policy issues are referenced in the penultimate paragraph of Chapter 9.
[16] The Project Steering Committee and Preparation Unit are expected to include representatives of the four GSA councils, MLUGDHE and FRA.