

第4章

プロジェクトの評価

第4章 プロジェクトの評価

4-1 事業実施のための前提条件

プロジェクト実施のための前提条件は次のとおりである。

- ① タマブア・イ・ワイ橋の建設時には、主桁の製作ヤード（ $120\text{m}\times 10\text{m}=1,200\text{m}^2$ ）及びストックヤード（ $105\text{m}\times 25\text{m}=2,625\text{m}^2$ ）等を含め仮設ヤードとして $23,800\text{m}^2$ （ $170\text{m}\times 140\text{m}$ ）程度の用地が必要となる。一箇所ではこの面積を確保できない場合は、二箇所に分けて確保する。今後、詳細設計時において候補地を特定し、当該地を利用している利用者がいる場合は、立ち退き等を PQ 公示までに完了することが必要である。
- ② 橋梁建設に伴い環境影響評価（EIA）の許認可が必要となる。
- ③ PQ 公示までに土取り場及び採石場として適切な候補地を選定する。
- ④ 土取り場、採石場の採掘許可及び樹木伐採の許可が必要となる。

4-2 プロジェクト全体計画達成のために必要な相手方投入（負担）事項

プロジェクトの効果を発現・持続するため相手国側が取り組むべき事項は、以下の通りである。

- ① 本プロジェクトを円滑に遂行するために、本報告書「3-5-1-2 フィジー国側負担経費」に記述した予算を事前に確保する。
- ② 上記の内、施工ヤード等の借地の確保は工事開始迄に確実に完了することが必要である。
- ③ 本プロジェクトによって建設された橋梁・道路・護岸の永続的な機能を確保するために、本報告書「3-4 プロジェクトの運営・維持管理計画」に記述された維持管理業務とそれに必要な要員および費用を確保する。

4-3 外部条件

プロジェクトの効果を発現・持続するための外部条件を以下に列記する。

- ① 新橋及び取付け道路は設計速度 50km/h で設計されているが、市街地であり、事故防止のためにこの設計速度を順守するように速度規制（ 50 km/h ）の標識を設置する等、安全対策の措置を励行すること。
- ② 新橋及び取付け道路は、トレーラー荷重（43 トン）も包括する設計荷重で設計されているが、耐用年数維持のために過積載の禁止及び取締り等の措置を励行すること。

4-4 プロジェクトの評価

4-4-1 妥当性

以下の点から、我が国の無償資金協力により事業を実施することは妥当であると判断される。

- ① プロジェクトの裨益が、スバ首都圏とフィジー第二の都市ラウトカ及びナンディ空港があるビチレブ島北西部地域、さらにナウソリ空港のあるビチレブ島北東部地域を含む相当数の一般国民に及ぶこと（直接的にはグレーター・スバ市街 108,016 人、ビチレブ島北西部地域 247,708 人、ビチレブ島北東部地域 177,678 人の合計 533,402 人。間接的にはフィジー国民 89 万人）。
- ② プロジェクトの効果として、フィジー国の最重要幹線道路であるクイーンズロードとキングスロードの輸送ネットワークの強化、安定交通の確保、交通の円滑化、社会経済の活性化等があり、物流の円滑化及び住民の生活改善に緊急的に求められていること。
- ③ フィジー国側が独自の資金と人材・技術で完成後の運営・維持管理が行うことが出来、過度に高度な技術を必要としないこと。
- ④ 首都圏交通戦略（Greater Suva Transportation Strategy 2015-2030）（2014年8月）においては、FRA では、2014年にスバ首都圏の短中長期的な道路網整備計画を取りまとめている。この中でタマブア・イ・ワイ橋が位置するクイーンズロードの整備に関連するプロジェクトが提案されており、本プロジェクト「タマブア・イ・ワイ橋架け替え計画」の重要性は高い。
- ⑤ 対フィジー国別開発協力方針（2019年4月）において「脆弱性の克服」及び「環境・気候変動」のための支援を重点分野としており、本プロジェクトは重点分野「環境・気候変動」の開発課題の一つである「防災プログラム」に合致する。
- ⑥ 本プロジェクトにおいては、環境面の負の影響が殆ど無いこと。
- ⑦ 我が国の無償資金協力の制度により、特段の困難なくプロジェクトが実施可能であること。
- ⑧ 対象橋梁は PC3 径間連結ポストテンション方式スラブ桁橋であるため、フィジー国の技術による設計、施工は困難であり、日本の技術を用いる必要性・優位性があること。

4-4-2 有効性

(1) 定量的効果

本プロジェクトの実施により、見込まれる定量的効果は以下の通りである。

指標名	基準値 (2018年実績値)	目標値(2027年) 【事業完成3年後】
交通量(台/日)	21,414	29,500
輸送量 旅客数(人/年)	25,998,000	37,236,000
輸送量 貨物量(t/年)	4,378,000	4,641,000

(輸送量はいずれも同橋の通過交通の数量)

(2) 定性的効果

本プロジェクトの実施により、見込まれる定性的効果は以下の通りである。

- ① 災害発生時にも円滑な物流・人の往来が確保され、当国の持続的経済発展に寄与する。
- ② 対面交通が解消されることにより交通安全向上に寄与する。

以上の内容により、本案件の妥当性は高く、また有効性が見込まれると判断される。

[資料]

1. 調査団員氏名・所属

(1) 現地調査時

氏名	担当	所属先・職位
福田 義夫	総括	JICA 社会基盤・平和構築部 運輸交通・情報通信グループ 第一チーム 専任参事
中川 輝雄	業務主任／橋梁計画	セントラルコンサルタント（株）
藤村 淳	副業務主任／橋梁計画	セントラルコンサルタント（株）
関 康一郎	橋梁設計	セントラルコンサルタント（株）
豊崎 真也	道路計画／道路設計	セントラルコンサルタント（株）
千葉 靖之	交通量調査／社会状況調査	セントラルコンサルタント（株）
梅野 順	河川計画	セントラルコンサルタント（株）
古川 潤一	河川計画	セントラルコンサルタント（株）
藤田 知己	環境社会配慮	セントラルコンサルタント（株）
丸尾 祐治	自然条件調査 (地形・地質)	セントラルコンサルタント（株）
早田 輝俊	施工計画／調達事情／積算	セントラルコンサルタント（株）
青木 聡	施工計画／調達事情／積算	セントラルコンサルタント（株）
須田 裕哉	塩害対策アドバイザー	琉球大学
神谷 和宏	業務調整/環境社会配慮補助 /社会状況調査補助	セントラルコンサルタント（株）

(2) 概略設計概要説明時

COVID-19の影響により JICA 調査団は現地派遣されず、Web 会議で先方と協議を実施した。

2. 調査日程

(1) 現地調査時

月	日	曜日	総括	業務主任/ 橋梁計画	副業務主任/ 橋梁計画	橋梁設計	道路計画/ 道路設計	交通量調査/ 社会状況調査	河川計画	自然条件調査 (地形・地質)	環境社会配慮	施工計画/ 調達事情/積算	塩害対策 アドバイザー	業務調整				
			福田 義夫	中川 輝雄	藤村 淳	関康 一郎	豊崎 真也	千葉 靖之	梅野 順	丸尾 祐治	藤田 知己	早田 輝俊	須田 裕哉	神谷 和宏				
1	10	火	成田 (18:30) →						成田 (18:30) →									
2	11	水	→オークランド→ナンディ(12:45)						→オークランド→ナンディ(12:45)									
3	12	木	・14:00: JICAフィジー事務所表敬訪問 ・11:00: 大使館表敬訪問 ・現地調査						・14:00: JICAフィジー事務所表敬訪問 ・現地調査									
4	13	金	・10:00: FRA(道路公社)表敬訪問、インセプション・レポート説明 及びM/M協議(FRA)				現地調査		現地調査									
5	14	土	現地調査						"									
6	15	日	団内ミーティング						団内ミーティング									
7	16	月	・M/M協議 ・JICAフィジー事務所及び大使館報告				資料収集		現地調査									
8	17	火	+ナンディ(14:10)→ オークランド(17:20)						資料収集									
9	18	水	オークランド(08:55) →成田(16:50)						現地調査									
10	19	木	"						"									
11	20	金	"						資料収集		現地調査				現地調査			
12	21	土	資料収集						資料整理		"				"			
13	22	日	団内ミーティング						団内ミーティング						"			
14	23	月	現地調査						資料収集		現地調査				"			
15	24	火	資料収集						"		"				"			
16	25	水	"						現地調査						"			
17	26	木	現地調査						"						"			
18	27	金	FRAと協議						FRAと協議		現地調査				"			
19	28	土	資料収集						資料整理		"				資料収集			
20	29	日	団内ミーティング						団内ミーティング						団内ミーティング			
21	30	月	現地調査						資料収集		現地調査				現地調査			
22	1	火	"						"		"				"			
23	2	水	FRAと協議						資料整理		成田 (18:30) →				"			
24	3	木	・大使館報告		資料収集				成田 (18:30) →		FRAと協議		現地調査		現地調査			
25	4	金	現地調査中間報告書作成						→オークランド →ナンディ(12:45)		中間報告書作成		現地調査				"	
26	5	土	"						現地調査		"				資料収集			
27	6	日	ナンディ(13:10)→アピア(16:00)			団内ミーティング									団内ミーティング			
28	7	月	"						"						JICA事務所報告			
29	8	火	現地調査中間報告書作成		ナンディ(14:10)→ オークランド (17:20)		現地調査		ナンディ(14:10)→ オークランド(17:20)		現地調査				"			
30	9	水	・JICA事務所報告		オークランド (08:55)→成田 (16:50)		・JICA事務所報告		オークランド(08:55) →成田(16:50)		現地調査		・JICA事務所報告		・JICA事務所報告			
31	10	木	ナンディ(14:10)→ オークランド(17:20)		"						"		資料収集				資料収集	
32	11	金	オークランド(08:55)→成田(16:50)						"						"			
33	12	土	資料収集						資料整理						"			
34	13	日	団内ミーティング						団内ミーティング						団内ミーティング			
35	14	月	現地調査						現地調査						現地調査			
36	15	火	"						現地調査		資料収集				"			
37	16	水	現地調査		資料収集				"						"			
38	17	木	"						"		"				那覇(16:25)→羽田 →シドニー(8:30+1)			
39	18	金	"						"		"				シドニー(13:00)→ ナンディ(18:50)			
40	19	土	資料整理						資料整理		ナンディ→スバ 現地調査				資料収集			
41	20	日	団内ミーティング						団内ミーティング						現地調査			
42	21	月	現地調査						現地調査						現地調査→ ナンディ			
43	22	火	"						"						ナンディ(08:00)→ シドニー(11:45) シドニー(20:50)→			
44	23	水	"						現地調査		資料収集				→羽田(05:15) →那覇(10:30)			
45	24	木	"						現地調査中間報告書作成						"			
46	25	金	"						"						"			
47	26	土	資料整理						ナンディ(14:10)→ オークランド(17:20)		資料整理				資料収集			
48	27	日	団内ミーティング						オークランド(08:55) →成田(16:50)		団内ミーティング				団内ミーティング			
49	28	月	・FRAと協議 ・JICA事務所報告						現地調査中間報告書作成		・FRAと協議 ・JICA事務所報告		ナンディ(14:10)→ オークランド(17:20)				JICA事務所報告	
50	29	火	"						"		"				"			
51	30	水	"						"		"				"			
52	31	木	ナンディ(14:10)→ オークランド(17:20)		"				"		"				"			
53	6	1	オークランド(08:55) →成田(16:50)		"				"		"				"			

3. 主要面談者リスト (2018年5月調査時点)

(1) フィジー側

1) インフラ・運輸省 (Ministry of Infrastructure and Transport: MoIT)

Lui Naisara	Deputy Secretary Infrastructure
Andrew Pene	Director, Building & Government Architect Section, Operations Divisions
Aseri Driu	Transport Planning Analyst, Planning Section, Transport & Energy Division

2) フィジー道路公社 (Fiji Roads Authority: FRA)

Jonathan Moore	Chief Executive Officer
Michael Dale	Head of Design & Procurement
Charles Ward	Head of Governance
Robert Sen	Chief Financial Officer
Aram Goes	General Manager Network Operations & Maintenance
Nasir Khan	Program Manager, Bridges & Jetties Section, Delivery Department
Cesar Petines	Senior Engineer, Bridges & Jetties Section, Delivery Department
Samuela Tawakedrau	Environment Officer, Environment Section, Governance Department

3) フィジー歳入関税庁 (Fiji Revenue and Customs Service: FRCS)

Muni Ranta	Deputy Director Revenue Management
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4) フィジー気象サービス (Fiji Meteorological Service)

Viliame Vereivalu	Principal Scientific Officer (Hydrology)
Bipen Prakash	Acting Principal Scientific Officer (Climate)
Ravind Kumar	Director

5) SOPAC (Fiji South Pacific Applied Geoscience Commission)

Dorene Naidu	Publications Officer
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6) 国土資源省国土測量庁 (MINISTRY OF LANDS & MINERAL RESOURCES DEPARTMENT OF LANDS AND SURVEY)

Tausie F. Atalifo	Director Geospatial Information Management
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(2) 日本側

1) 日本国大使館

大村 昌弘	特命全権日本国大使
羽田 貢由	参事官
山田 源太	一等書記官
大平 弘太郎	二等書記官

2) JICA フィジー事務所

大野 ゆかり	所長
堺水尾 真也	次長
池田 俊一郎	所員
可児 淳美	企画調査員（広域社会・経済インフラ）
Seema Chand	ナショナルスタッフ

4. 討議議事録 (M/D)

(1) 現地調査時

Minutes of Discussions on the Preparatory Survey on the Project for Reconstruction of Tamavua-i-wai Bridge

In response to the request from the Government of the Republic of Fiji (hereinafter referred to as "Fiji"), the Government of Japan decided to conduct a Preparatory Survey on the Project for Reconstruction of Tamavua-i-wai Bridge (hereinafter referred to as "the Project"), and entrusted the Preparatory Survey to Japan International Cooperation Agency (hereinafter referred to as "JICA").

JICA sent the Preparatory Survey Team for the Outline Design (hereinafter referred to as "the Team") to Fiji, headed by Yoshio FUKUDA, Senior Assistant Director, Team 1, Transportation and ICT Group, Infrastructure and Peacebuilding Department of JICA, from April 11 to May 30, 2018.

The Team held a series of discussions with the officials concerned of the Government of Fiji and conducted a field survey in the Project area. In the course of the discussions, both sides have confirmed the main items described in the attached sheets. The Team will proceed to further works and prepare the Preparatory Survey Report.

Suva, May , 2018



Mr. Yoshio Fukuda
Leader
Preparatory Survey Team
Japan International Cooperation Agency



Mr. David Kolitagane
Permanent Secretary
Ministry of Infrastructure and Transport
Republic of Fiji



Mr. Jonathan Moore
Chief Executive Officer
Fiji Roads Authority
Republic of Fiji

ATTACHMENT

1. Objective of the Project

The objective of the Project is to reconstruction the Tamavua-i-wai Bridge for the purpose to continually ensure resilience of the trunk road in Viti Levu island, thereby contributing to the sustainable economic development of Fiji.

2. Title of the Preparatory Survey

Both sides confirmed the title of the Preparatory Survey as “the Preparatory Survey on the Project for Reconstruction of Tamavua-i-wai Bridge”.

3. Project Site

Both sides confirmed the site of the Project shown in Annex 1.

4. Responsible authorities for the Project

Both sides confirmed the responsible Ministry and executing agency as follows:

4-1. The responsible Ministry is the Ministry of Infrastructure and Transport.

4-2. The executing agency is the Fiji Roads Authority (hereinafter referred as “FRA”).

The executing agency shall coordinate with all the relevant agencies to ensure smooth implementation of the Project and ensure that the Undertakings are taken by relevant agencies properly and on time with support of the responsible Ministry. The organization charts are shown in Annex 2.

5. Items requested by the Government of Fiji

5-1. As a result of discussions, both sides confirmed that the items requested by the Government of Fiji are construction of Tamavua-i-wai Bridge with two lanes including required road improvement in approach section to the Bridge.

5-2. JICA will assess the appropriateness of the above requested items through the survey and will report findings to the Government of Japan. The final components of the Project would be decided by the Government of Japan.

6. Japanese Grant Scheme

6-1. The Fiji side understands the Japanese Grant Scheme and its procedures as described in Annex 3, Annex 4 and Annex 5, and necessary measures to be taken by the Government of Fiji. A template of the Project Monitoring Report to be submitted by the executing agency is an attached in Annex 4.

6-2. The Fiji side understands to take the necessary measures after signing of the

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Grant Agreement, as described in Annex 5, for smooth implementation of the Project, as a condition for the Japanese Grant to be implemented. The final and detailed contents of the Annex 5 will be worked out during the survey and shall be agreed no later than by the Explanation of the Draft Preparatory Survey Report.

The contents of Annex 5 will be used to determine the following:

- (1) The scope of the Project.
- (2) The timing of the Project implementation.
- (3) Timing and possibility of budget allocation.

The Annex 5 will finally be the Attachment to the Grant Agreement.

7. Schedule of the Survey

- 7-1. The Team will proceed with survey according to the schedule incorporated in the Inception Report.
- 7-2. JICA will prepare a draft Preparatory Survey Report in English and dispatch a mission to Fiji in order to explain its contents around November, 2018.
- 7-5. If the contents of the draft Preparatory Survey Report is accepted in principle and the Undertakings are fully agreed by the Fiji side, JICA will complete the final report in English and send it to Fiji around June, 2019.
- 7-6. The above schedule is tentative and subject to change.

8. Environmental and Social Considerations

- 8-1. The Fiji side confirmed to give due environmental and social considerations during implementation of the Project, and after completion of the Project, in accordance with the JICA Guidelines for Environmental and Social Considerations (April, 2010).
- 8-2. The Project is categorized as B because the Project is not located in a sensitive area, nor has it sensitive characteristics, nor falls it into sensitive sectors under the Guidelines, and its potential adverse impacts on the environment are not likely to be significant. The Fiji side confirmed to conduct the necessary procedures concerning the environmental assessment (including stakeholder meetings, Environmental Impact Assessment (EIA) /Initial Environmental Examination (IEE) and information disclosure, etc.) and make EIA/IEE report of the Project. The EIA/IEE approval shall be received from the responsible authorities and submitted to JICA by the date to be notified later.
- 8-3. For projects that will result in involuntary resettlement, the Fiji side confirmed to prepare a Resettlement Action Plan (RAP)/Abbreviated Resettlement Action Plan

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(ARAP) and make it available to the public. In addition, the Fiji side confirmed to provide the affected people with sufficient compensation and/or support in accordance with RAP/ARAP, in a timely manner.

9. Operation and Maintenance

- 9-1. The Fiji side explained that the maintenance works on the target bridge would be conducted by the FRA. The Fiji side will take every necessary action including securing enough budget and personnel for the operation and maintenance of the facilities implemented by the Project.
- 9-2. The Team explained to the Fiji side that overloaded trucks which exceed designed axle loads would accelerate deterioration thus shorten the lifespan of the bridge. The Team also explained to the Fiji side that proper asset management will impact greatly on maintenance cost and lifespan.

10. Disclosure of Information

Both sides confirmed that the survey results excluding the project cost will be disclosed to the public after the completion of the Preparatory Survey. All the result including the project cost will be disclosed to the public after the verification of all contracts for the Project by JICA are concluded.

11. Safety Measures

- 11-1. To avoid accidents on site during the implementation of the Project, the Fiji side agreed to cause the consultant and the contractor to enforce safety measures such as setting safety assurance to the site, providing information for security control to public, and deploying adequate security personnel, based on “The Guidance for the Management of Safety for Construction Works in Japanese ODA Projects” which has been published on JICA’s URL below.

http://www.jica.go.jp/activities/schemes/oda_safety/ku57pq00001nz4eu-att/guidance_en.pdf

- 11-2. The Team recommended to the Fiji side to explain to the residents about the Project (necessity and significance, construction period, sites, impact etc.), so that consensus and support can be obtained from them for the smooth implementation of the Project.

12. Misconduct

If JICA receives information related to suspected corrupt or fraudulent practices in the implementation of the Project, the Fiji side shall provide JICA with additional such

information as JICA may reasonably request, including information related to any concerned official of the government and/or public organizations in Fiji.

The Fiji side shall not, unfairly or unfavourably treat the person(s) and/or company which provided the information related to suspected corrupt or fraudulent practices in the implementation of the Project.

13. Other Relevant Issues

13-1. Provision of Survey Data

The Fiji side requested all survey data to be got in the survey like result of topographic survey, hydrological and hydraulic analysis, and etc., JICA replied all data will be transferred to the Fiji side.

13-2. Provision of Conveniences to the Team by the Fiji side

The Fiji side shall, at its own expenses, provide the Team with the items mentioned in Chapter 9 of the Inception Report in collaboration with other organizations concerned to the Project.

13-3. Works entrusted to local company

Some works in the survey as topographic survey, geological survey and etc., will be entrusted to local company. These works are very important for implementation of the Survey, also from the point of survey schedule. The Fiji side promised to support the Survey team when necessary.

13-4. Questionnaire

The FRA shall answer to the Questionnaire submitted by the Team in English with relevant documents by May 19th 2018.

13-5. Modular Bridge Construction

The FRA is proceeding with construction of the Modular Bridge with two lanes and 75 year life span at the location just downstream of existing bridge according to the 4 lanes road plan beyond Lami Town of which the population is rapidly increasing. The FRA promised to offer information on the Modular Bridge Construction as its progress, plan and design would have very close linkage to the Project to the Team.

13-6. Demolition of the Existing Bridge and Old Bridge Piers

The Fiji side shall demolish the existing bridge and old bridge piers, except abutments described on Annex 6. Thus the demolishment of the remaining is to be undertaken by the Japanese side to ensure better and efficient management of construction schedule and its quality.

13-7. Relocation of the Existing Utilities

The Fiji side shall relocate the existing utilities, which are currently attached to

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the existing bridge, to the adequate location where no obstruction to the construction by the Japanese side.

Annex 1 Project Site

Annex 2 Organization Chart

Annex 3 Japanese Grant

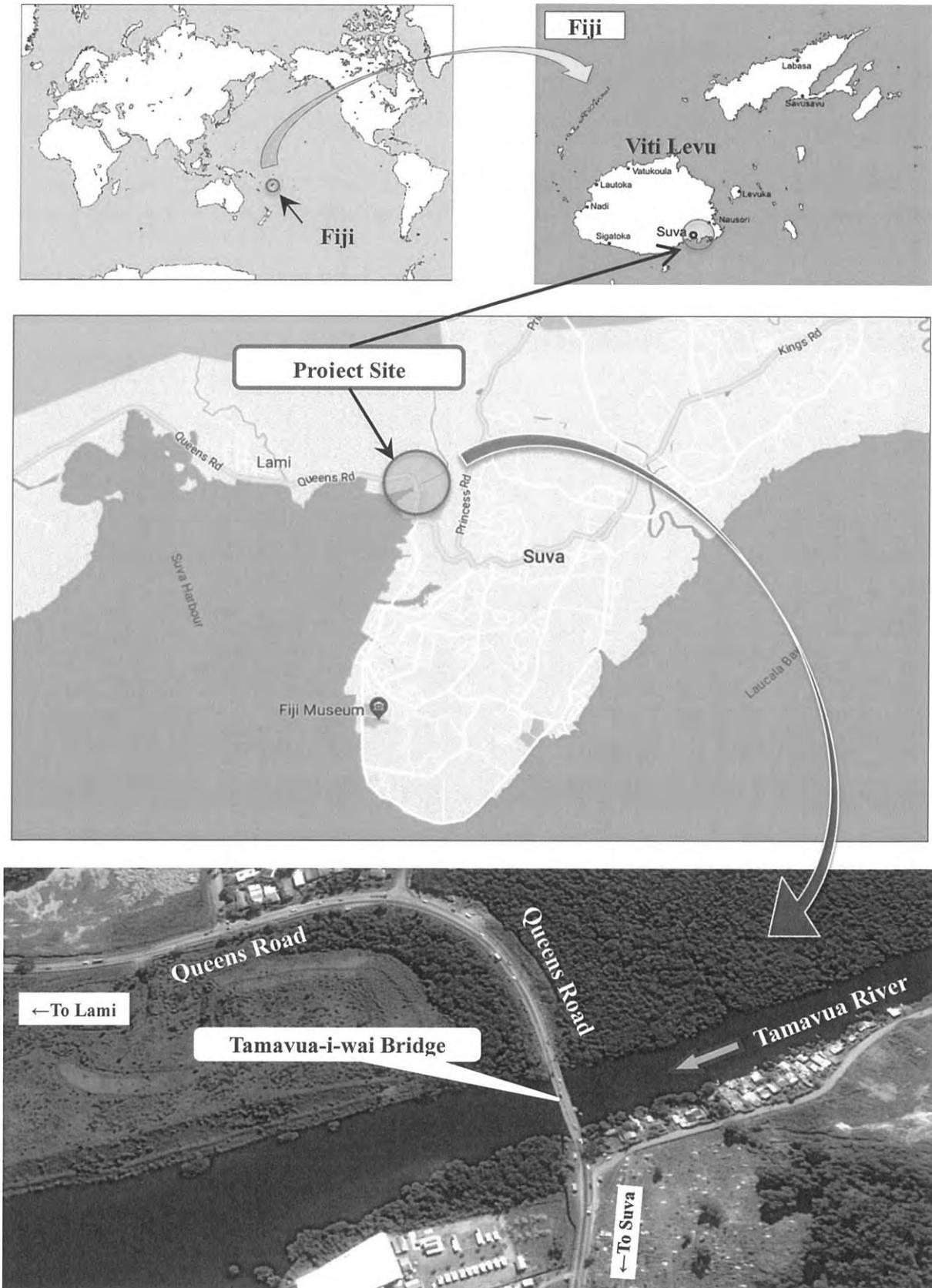
Annex 4 Form of Project Monitoring Report

Annex 5 Example Form of Major Undertakings to be taken by the Government of Fiji

Annex 6 Demarcation of Demolition of the Existing Bridge and Old Bridge Piers

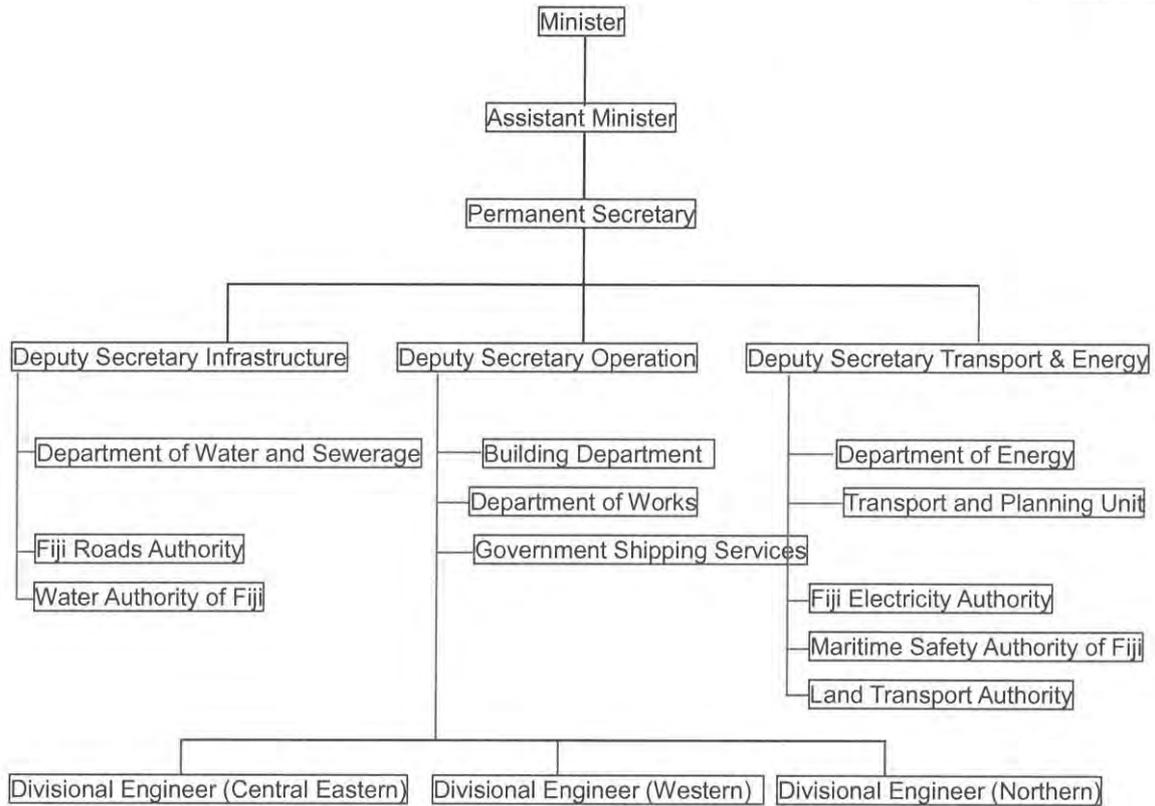


Location Map of the Project

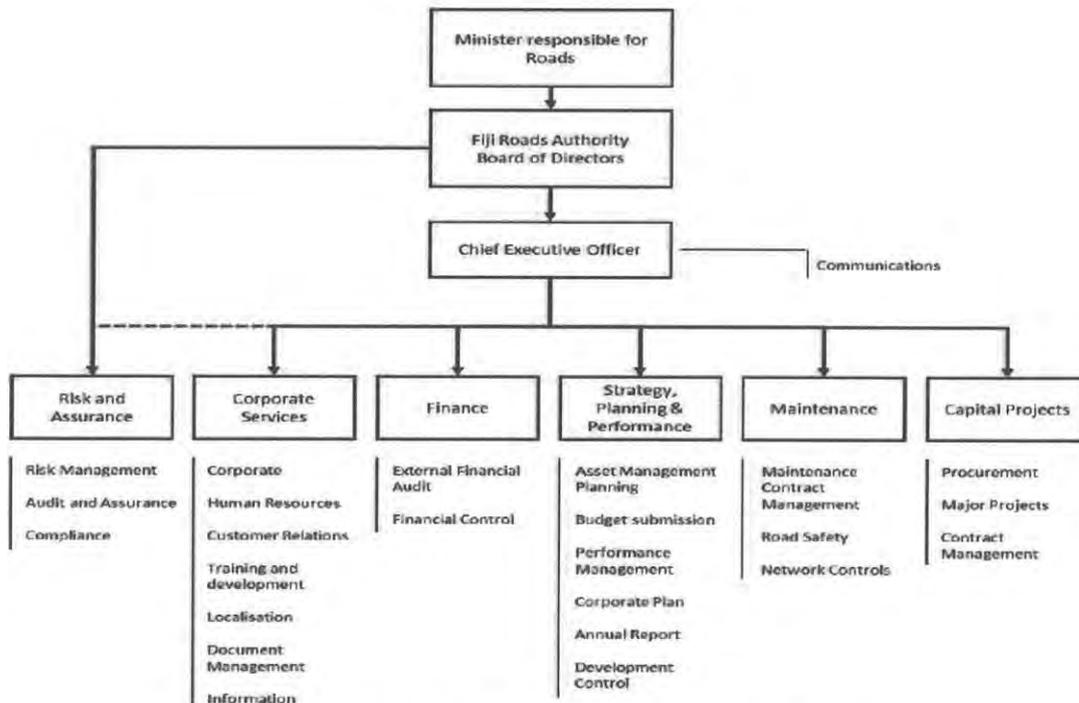


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Organization Chart : Ministry of Infrastructure and Transport



Organization Chart : Fiji Roads Authority

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JAPANESE GRANT

The Japanese Grant is non-reimbursable fund provided to a recipient country (hereinafter referred to as “the Recipient”) to purchase the products and/or services (engineering services and transportation of the products, etc.) for its economic and social development in accordance with the relevant laws and regulations of Japan. Followings are the basic features of the project grants operated by JICA (hereinafter referred to as “Project Grants”).

1. Procedures of Project Grants

Project Grants are conducted through following procedures (See “PROCEDURES OF JAPANESE GRANT” for details):

(1) Preparation

- The Preparatory Survey (hereinafter referred to as “the Survey”) conducted by JICA

(2) Appraisal

-Appraisal by the government of Japan (hereinafter referred to as “GOJ”) and JICA, and
Approval by the Japanese Cabinet

(3) Implementation

Exchange of Notes

-The Notes exchanged between the GOJ and the government of the Recipient

Grant Agreement (hereinafter referred to as “the G/A”)

-Agreement concluded between JICA and the Recipient

Banking Arrangement (hereinafter referred to as “the B/A”)

-Opening of bank account by the Recipient in a bank in Japan (hereinafter referred to as “the Bank”) to receive the grant

Construction works/procurement

-Implementation of the project (hereinafter referred to as “the Project”) on the basis of the

G/A

(4) Ex-post Monitoring and Evaluation

-Monitoring and evaluation at post-implementation stage

2. Preparatory Survey

(1) Contents of the Survey

The aim of the Survey is to provide basic documents necessary for the appraisal of the Project made by the GOJ and JICA. The contents of the Survey are as follows:

- Confirmation of the background, objectives, and benefits of the Project and also institutional capacity of relevant agencies of the Recipient necessary for the implementation of the Project.
- Evaluation of the feasibility of the Project to be implemented under the Japanese Grant from a technical, financial, social and economic point of view.
- Confirmation of items agreed between both parties concerning the basic concept of the Project.
- Preparation of an outline design of the Project.
- Estimation of costs of the Project.
- Confirmation of Environmental and Social Considerations

The contents of the original request by the Recipient are not necessarily approved in their initial form. The Outline Design of the Project is confirmed based on the guidelines of the Japanese Grant.

JICA requests the Recipient to take measures necessary to achieve its self-reliance in the implementation of the Project. Such measures must be guaranteed even though they may fall outside of the jurisdiction of the executing agency of the Project. Therefore, the contents of the Project are confirmed by all relevant organizations of the Recipient based on the Minutes of Discussions.

(2) Selection of Consultants

For smooth implementation of the Survey, JICA contracts with (a) consulting firm(s). JICA selects (a) firm(s) based on proposals submitted by interested firms.

(3) Result of the Survey

JICA reviews the report on the results of the Survey and recommends the GOJ to appraise the implementation of the Project after confirming the feasibility of the Project.

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3. Basic Principles of Project Grants

(1) Implementation Stage

1) The E/N and the G/A

After the Project is approved by the Cabinet of Japan, the Exchange of Notes (hereinafter referred to as “the E/N”) will be signed between the GOJ and the Government of the Recipient to make a pledge for assistance, which is followed by the conclusion of the G/A between JICA and the Recipient to define the necessary articles, in accordance with the E/N, to implement the Project, such as conditions of disbursement, responsibilities of the Recipient, and procurement conditions. The terms and conditions generally applicable to the Japanese Grant are stipulated in the “General Terms and Conditions for Japanese Grant (January 2016).”

2) Banking Arrangements (B/A) (See “Financial Flow of Japanese Grant (A/P Type)” for details)

a) The Recipient shall open an account or shall cause its designated authority to open an account under the name of the Recipient in the Bank, in principle. JICA will disburse the Japanese Grant in Japanese yen for the Recipient to cover the obligations incurred by the Recipient under the verified contracts.

b) The Japanese Grant will be disbursed when payment requests are submitted by the Bank to JICA under an Authorization to Pay (A/P) issued by the Recipient.

3) Procurement Procedure

The products and/or services necessary for the implementation of the Project shall be procured in accordance with JICA’s procurement guidelines as stipulated in the G/A.

4) Selection of Consultants

In order to maintain technical consistency, the consulting firm(s) which conducted the Survey will be recommended by JICA to the Recipient to continue to work on the Project’s implementation after the E/N and G/A.

5) Eligible source country

In using the Japanese Grant disbursed by JICA for the purchase of products and/or services, the eligible source countries of such products and/or services shall be Japan and/or the Recipient. The Japanese Grant may be used for the purchase of the products and/or services of a third country as eligible, if necessary, taking into account the quality, competitiveness and economic rationality of products and/or services necessary for achieving the objective of the Project. However, the prime contractors, namely,

constructing and procurement firms, and the prime consulting firm, which enter into contracts with the Recipient, are limited to "Japanese nationals", in principle.

6) Contracts and Concurrence by JICA

The Recipient will conclude contracts denominated in Japanese yen with Japanese nationals. Those contracts shall be concurred by JICA in order to be verified as eligible for using the Japanese Grant.

7) Monitoring

The Recipient is required to take their initiative to carefully monitor the progress of the Project in order to ensure its smooth implementation as part of their responsibility in the G/A, and to regularly report to JICA about its status by using the Project Monitoring Report (PMR).

8) Safety Measures

The Recipient must ensure that the safety is highly observed during the implementation of the Project.

9) Construction Quality Control Meeting

Construction Quality Control Meeting (hereinafter referred to as the "Meeting") will be held for quality assurance and smooth implementation of the Works at each stage of the Works. The member of the Meeting will be composed by the Recipient (or executing agency), the Consultant, the Contractor and JICA. The functions of the Meeting are as followings:

- a) Sharing information on the objective, concept and conditions of design from the Contractor, before start of construction.
- b) Discussing the issues affecting the Works such as modification of the design, test, inspection, safety control and the Client's obligation, during of construction.

(2) Ex-post Monitoring and Evaluation Stage

1) After the project completion, JICA will continue to keep in close contact with the Recipient in order to monitor that the outputs of the Project is used and maintained properly to attain its expected outcomes.

2) In principle, JICA will conduct ex-post evaluation of the Project after three years from the completion.

It is required for the Recipient to furnish any necessary information as JICA may reasonably request.

(3) Others

1) Environmental and Social Considerations

The Recipient shall carefully consider environmental and social impacts by the Project and must comply with the environmental regulations of the Recipient and JICA Guidelines for Environmental and Social Considerations (April, 2010).

2) Major undertakings to be taken by the Government of the Recipient

For the smooth and proper implementation of the Project, the Recipient is required to undertake necessary measures including land acquisition, and bear an advising commission of the A/P and payment commissions paid to the Bank as agreed with the GOJ and/or JICA. The Government of the Recipient shall ensure that customs duties, internal taxes and other fiscal levies which may be imposed in the Recipient with respect to the purchase of the Products and/or the Services be exempted or be borne by its designated authority without using the Grant and its accrued interest, since the grant fund comes from the Japanese taxpayers.

3) Proper Use

The Recipient is required to maintain and use properly and effectively the products and/or services under the Project (including the facilities constructed and the equipment purchased), to assign staff necessary for this operation and maintenance and to bear all the expenses other than those covered by the Japanese Grant.

4) Export and Re-export

The products purchased under the Japanese Grant should not be exported or re-exported from the Recipient.

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PROCEDURES OF JAPANESE GRANT

Stage	Procedures	Remarks	Recipient Government	Japanese Government	JICA	Consultants	Contractors	Agent Bank
Official Request	Request for grants through diplomatic channel	Request shall be submitted before appraisal stage.	x	x				
1. Preparation	(1) Preparatory Survey Preparation of outline design and cost estimate		x		x	x		
2. Appraisal	(2) Preparatory Survey Explanation of draft outline design, including cost estimate, undertakings, etc.		x		x	x		
	(3) Agreement on conditions for implementation	Conditions will be explained with the draft notes (E/N) and Grant Agreement (G/A) which will be signed before approval by Japanese government.	x	x (E/N)	x (G/A)			
	(4) Approval by the Japanese cabinet			x				
3. Implementation	(5) Exchange of Notes (E/N)		x	x				
	(6) Signing of Grant Agreement (G/A)		x		x			
	(7) Banking Arrangement (B/A)	Need to be informed to JICA	x					x
	(8) Contracting with consultant and issuance of Authorization to Pay (A/P)	Concurrence by JICA is required	x			x		x
	(9) Detail design (D/D)		x			x		
	(10) Preparation of bidding documents	Concurrence by JICA is required	x			x		
	(11) Bidding	Concurrence by JICA is required	x			x	x	
	(12) Contracting with contractor/supplier and issuance of A/P	Concurrence by JICA is required	x					x
	(13) Construction works/procurement	Concurrence by JICA is required for major modification of design and amendment of contracts.	x			x	x	
	(14) Completion certificate		x			x	x	
4. Ex-post monitoring & evaluation	(15) Ex-post monitoring	To be implemented generally after 1, 3, 10 years of completion, subject to change	x		x			
	(16) Ex-post evaluation	To be implemented basically after 3 years of completion	x		x			

notes:

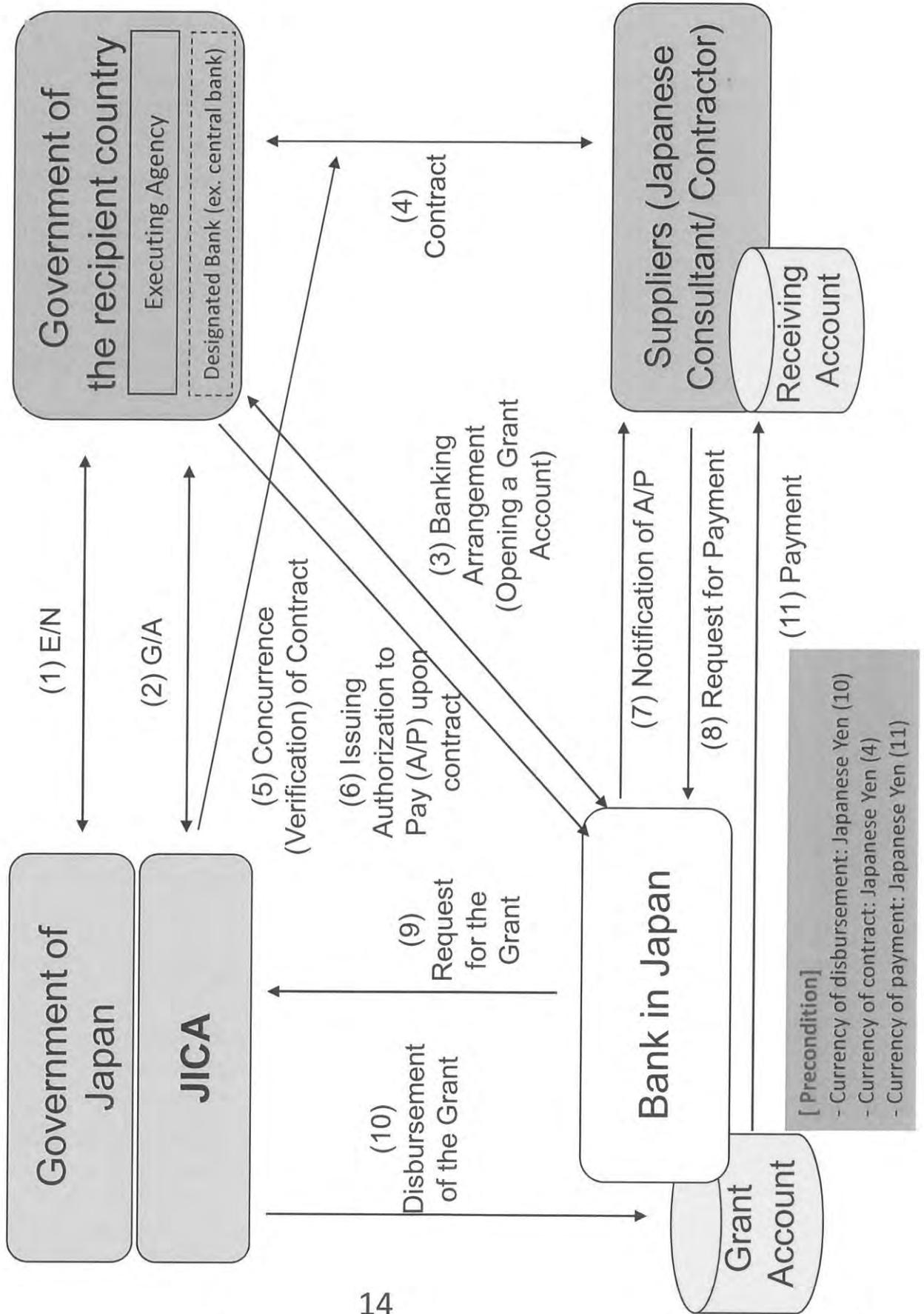
1. Project Monitoring Report and Report for Project Completion shall be submitted to JICA as agreed in the G/A.
2. Concurrence by JICA is required for allocation of grant for remaining amount and/or contingencies as agreed in the G/A.

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Financial Flow of Japanese Grant (A/P Type)



Project Monitoring Report
on
Project Name
Grant Agreement No. XXXXXXXX
20XX, Month

Organizational Information

Signer of the G/A (Recipient)	Person in Charge (Designation)	_____
	Contacts	_____
		Address: _____ Phone/FAX: _____ Email: _____
Executing Agency	Person in Charge (Designation)	_____
	Contacts	_____
		Address: _____ Phone/FAX: _____ Email: _____
Line Ministry	Person in Charge (Designation)	_____
	Contacts	_____
		Address: _____ Phone/FAX: _____ Email: _____

General Information:

Project Title	_____
E/N	Signed date: _____ Duration: _____
G/A	Signed date: _____ Duration: _____
Source of Finance	Government of Japan: Not exceeding JPY _____ mil. Government of (_____): _____

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1: Project Description

1-1 Project Objective

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1-2 Project Rationale

- Higher-level objectives to which the project contributes (national/regional/sectoral policies and strategies)
- Situation of the target groups to which the project addresses

--

1-3 Indicators for measurement of "Effectiveness"

Quantitative indicators to measure the attainment of project objectives		
Indicators	Original (Yr)	Target (Yr)
Qualitative indicators to measure the attainment of project objectives		

2: Details of the Project

2-1 Location

Components	Original <i>(proposed in the outline design)</i>	Actual
1.		

2-2 Scope of the work

Components	Original* <i>(proposed in the outline design)</i>	Actual*
1.		

Reasons for modification of scope (if any).

(PMR)

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2-3 Implementation Schedule

Items	Original		Actual
	(proposed in the outline design)	(at the time of signing the Grant Agreement)	

Reasons for any changes of the schedule, and their effects on the project (if any)

2-4 Obligations by the Recipient

2-4-1 Progress of Specific Obligations

See Attachment 2.

2-4-2 Activities

See Attachment 3.

2-4-3 Report on RD

See Attachment 11.

2-5 Project Cost

2-5-1 Cost borne by the Grant(Confidential until the Bidding)

Components			Cost (Million Yen)	
	Original (proposed in the outline design)	Actual (in case of any modification)	Original ^{(1),(2)} (proposed in the outline design)	Actual
1.				
Total				

Note: 1) Date of estimation:
 2) Exchange rate: 1 US Dollar = Yen

2-5-2 Cost borne by the Recipient

Components			Cost (1,000 Taka)	
	Original (proposed in the outline design)	Actual (in case of any modification)	Original ^{(1),(2)} (proposed in the outline design)	Actual
1.				

- Note: 1) Date of estimation:
2) Exchange rate: 1 US Dollar =

Reasons for the remarkable gaps between the original and actual cost, and the countermeasures (if any)

(PMR)

2-6 Executing Agency

- Organization's role, financial position, capacity, cost recovery etc,
- Organization Chart including the unit in charge of the implementation and number of employees.

Original (at the time of outline design) name: role: financial situation: institutional and organizational arrangement (organogram): human resources (number and ability of staff):
Actual (PMR)

2-7 Environmental and Social Impacts

- The results of environmental monitoring based on Attachment 5 (in accordance with Schedule 4 of the Grant Agreement).
- The results of social monitoring based on in Attachment 5 (in accordance with Schedule 4 of the Grant Agreement).
- Disclosed information related to results of environmental and social monitoring to local stakeholders (whenever applicable).

3: Operation and Maintenance (O&M)

3-1 Physical Arrangement

- Plan for O&M (number and skills of the staff in the responsible division or section, availability of manuals and guidelines, availability of spareparts, etc.)

Original (at the time of outline design)
Actual (PMR)

3-2 Budgetary Arrangement

- Required O&M cost and actual budget allocation for O&M

Original (at the time of outline design)

Actual (PMR)

4: Potential Risks and Mitigation Measures

- Potential risks which may affect the project implementation, attainment of objectives, sustainability
- Mitigation measures corresponding to the potential risks

Assessment of Potential Risks (at the time of outline design)

Potential Risks	Assessment
1. (Description of Risk)	Probability: High/Moderate/Low
	Impact: High/Moderate/Low
	Analysis of Probability and Impact:
	Mitigation Measures:
	Action required during the implementation stage:
	Contingency Plan (if applicable):
2. (Description of Risk)	Probability: High/Moderate/Low
	Impact: High/Moderate/Low
	Analysis of Probability and Impact:
	Mitigation Measures:
	Action required during the implementation stage:
	Contingency Plan (if applicable):
3. (Description of Risk)	Probability: High/Moderate/Low
	Impact: High/Moderate/Low
	Analysis of Probability and Impact:
	Mitigation Measures:
	Action required during the implementation stage:

	Contingency Plan (if applicable):
Actual Situation and Countermeasures (PMR)	

5: Evaluation and Monitoring Plan (after the work completion)

5-1 Overall evaluation

Please describe your overall evaluation on the project.

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5-2 Lessons Learnt and Recommendations

Please raise any lessons learned from the project experience, which might be valuable for the future assistance or similar type of projects, as well as any recommendations, which might be beneficial for better realization of the project effect, impact and assurance of sustainability.

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5-3 Monitoring Plan of the Indicators for Post-Evaluation

Please describe monitoring methods, section(s)/department(s) in charge of monitoring, frequency, the term to monitor the indicators stipulated in 1-3.

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Attachment

1. Project Location Map
2. Specific obligations of the Recipient which will not be funded with the Grant
3. Monthly Report submitted by the Consultant
- Appendix - Photocopy of Contractor's Progress Report (if any)
 - Consultant Member List
 - Contractor's Main Staff List
4. Check list for the Contract (including Record of Amendment of the Contract/Agreement and Schedule of Payment)
5. Environmental Monitoring Form / Social Monitoring Form
6. Monitoring sheet on price of specified materials (Quarterly)
7. Report on Proportion of Procurement (Recipient Country, Japan and Third Countries) (PMR (final) only)
8. Pictures (by JPEG style by CD-R) (PMR (final) only)
9. Equipment List (PMR (final) only)
10. Drawing (PMR (final) only)
11. Report on RD (After project)

Remark : No. 6, 7 are attached in this document for reference.

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Monitoring sheet on price of specified materials

1. Initial Conditions (Confirmed)

Items of Specified Materials	Initial Volume A	Initial Unit Price (¥) B	Initial total Price C=A×B	1% of Contract Price D	Condition of payment Price (Decreased) E=C-D	Price (Increased) F=C+D
Item 1	●●t	●	●●	●	●	●
Item 2	●●t	●	●●	●		
Item 3						
Item 4						
Item 5						

2. Monitoring of the Unit Price of Specified Materials

- (1) Method of Monitoring : ●●
- (2) Result of the Monitoring Survey on Unit Price for each specified materials

Items of Specified Materials	1st month, 2015	2nd month, 2015	3rd month, 2015	4th	5th	6th
Item 1	●	●	●			
Item 2						
Item 3						
Item 4						
Item 5						

(3) Summary of Discussion with Contractor (if necessary)

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Report on Proportion of Procurement (Recipient Country, Japan and Third Countries)
 (Actual Expenditure by Construction and Equipment each)

	Domestic Procurement (Recipient Country) A	Foreign Procurement (Japan) B	Foreign Procurement (Third Countries) C	Total D
Construction Cost	(A/D%)	(B/D%)	(C/D%)	
Direct Construction Cost	(A/D%)	(B/D%)	(C/D%)	
others	(A/D%)	(B/D%)	(C/D%)	
Equipment Cost	(A/D%)	(B/D%)	(C/D%)	
Design and Supervision Cost	(A/D%)	(B/D%)	(C/D%)	
Total	(A/D%)	(B/D%)	(C/D%)	

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(Example)
Major Undertakings to be taken by the Recipient Country

1. Specific obligations of the Recipient Country which will not be funded with the Grant

(1) Before the Tender

NO	Items	Deadline	In charge	Estimated Cost	Ref.
1	To open bank account (B/A)	within 1 month after the signing of the G/A			
2	To issue A/P to a bank in Japan (the Agent Bank) for the payment to the consultant	within 1 month after the signing of the contract			
3	To approve EIA(Conditions of approval should be fulfilled, if any) and secure the necessary budget for implementation.	within 1 month after the signing of the G/A			
4	To secure Project site and temporary yard.	before start of the construction			
5	To remove and relocate the following facilities. 1) Removal of existing fence and gate 2) Cutting trees at the project site	before start of the construction			
7	To construct gates and fences to be necessary for	before start of the construction			
9	To submit Project Monitoring Report (with the result of Detail Design)	before preparation of bidding documents			

(B/A: Banking Arrangement, A/P: Authorization to pay, N/A: Not Applicable)

(2) During the Project Implementation

NO	Items	Deadline	In charge	Estimated Cost	Ref.
1	To issue A/P to a bank in Japan (the Agent Bank) for the payment to the Supplier(s)	within 1 month after the signing of the contract(s)			
2	To bear the following commissions to a bank in Japan for the banking services based upon the B/A				
	1) Advising commission of A/P	within 1 month after the signing of the contract(s)			
	2) Payment commission for A/P	every payment			
3	to ensure prompt unloading and customs clearance at ports of disembarkation in recipient country and to assist the Supplier(s) with internal transportation therein	during the Project			
4	To accord Japanese nationals and/or physical persons of third countries whose services may be required in connection with the supply of the products and the services such facilities as may be necessary for their entry into the country of the Recipient and stay therein for the performance of their work	during the Project			
5	To ensure that customs duties, internal taxes and other fiscal levies which may be imposed in the country of the Recipient with respect to the purchase of the products and/or the services be exempted/ be borne by its designated authority without using the Grant	during the Project			
6	To bear all the expenses, other than those covered by the Grant, necessary for the implementation of the Project	during the Project			
7	To submit Project Monitoring Report	every month			
	1) To submit Project Monitoring Report (final)	within one month after signing of Certificate of Completion for the works under the contract(s)			
8	To submit a report concerning completion of the Project	within six months after completion of the Project			
9	To construct access roads	3 months before completion of the construction			
	1) Outside the site				
10	To provide facilities for distribution of electricity, water supply and drainage and other incidental facilities necessary for the implementation of the Project outside the site(s)				
	1) Electricity The distributing line to the site	before start of the construction			
	2) Water Supply The city water distribution main to the site	6 months before completion of the construction			
	3) Drainage The city drainage main (for storm, sewer and others) to the site	6 months before completion of the construction			

	4) Furniture and Equipment General furniture	1 month before completion of the construction			
11	To take necessary measure for safety construction - traffic control - rope off	during the construction			
12	To implement EMP and EMoP	during the construction			
13	To submit results of environmental monitoring to JICA, by using the monitoring form, on a quarterly basis as a part of Project Monitoring Report	during the construction			
14	To implement RAP (livelihood restoration program, if needed)	for a period based on livelihood restoration program			
15	To implement social monitoring, and to submit the monitoring results to JICA, by using the monitoring form, on a quarterly basis as a part of Project Monitoring Report - Period of the monitoring may be extended if affected persons' livelihoods are not sufficiently restored. Extension of the monitoring will be decided based on agreement between _____ and JICA.	- until the end of livelihood restoration program (In case that livelihood restoration program is provided) - for two years after land acquisition and resettlement complete (In case that livelihood restoration program is not provided)			

(3) After the Project

NO	Items	Deadline	In charge	Estimated Cost	Ref.
1	To implement EMP and EMoP	for a period based on EMP and EMoP			
2	To submit results of environmental monitoring to JICA, by using the monitoring form, semiannually - The period of environmental monitoring may be extended if any significant negative impacts on the environment are found. The extension of environmental monitoring will be decided based on the agreement between _____ and JICA.	for three years after the Project			
3	To maintain and use properly and effectively the facilities constructed and equipment provided under the Grant Aid 1) Allocation of maintenance cost 2) Operation and maintenance structure 3) Routine check/Periodic inspection	After completion of the construction			

2. Other obligations of the Government of Fiji funded with the Grant

NO	Items	Deadline	Amount (Million Japanese Yen)*
1	To construct bridge and		
2	To implement detailed design, bidding support and construction supervision (Consulting Service)		
Total			XXX

*The Amount is provisional. This is subject to the approval of the Government of Japan.

EXAMPLE

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(2) 概略設計概要説明時

**Minutes of Discussions
on the Preparatory Survey on the Project for
the Reconstruction of Tamavua-i-wai Bridge
(Explanation on Draft Preparatory Survey Report)**

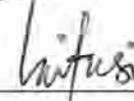
In response to the request from the Government of the Republic of Fiji (hereinafter referred to as “ Fiji ”) dated on May 21, 2014 and with reference to the Minutes of Discussions signed between then Ministry of Infrastructure and Transport, current Ministry of Infrastructure and Meteorological Services (hereinafter referred to as “MIMS”), Fiji Roads Authority (hereinafter referred to as “FRA”) and the Japan International Cooperation Agency (hereinafter referred to as “JICA”) in 2018, JICA scheduled to dispatch the Preparatory Survey Team (hereinafter referred to as “the Team”) for the explanation of Draft Preparatory Survey Report (hereinafter referred to as “the Draft Report”) on the Project for Reconstruction of Tamavua-i-wai Bridge (hereinafter referred to as “the Project”). But due to an avoidable reason, the Team couldn’t be dispatched and then the discussions were held remotely.

As a result of the discussions, both sides agreed on the main items described in the attached sheets.

Suva, June 3rd, 2020



Mr. FUKUDA Yoshio
Leader, Preparatory Survey Team
Japan International Cooperation
Agency
Japan



Mr. Taitusi VAKADRUVUYACA
Permanent Secretary
Ministry of Infrastructure and
Meteorological Services
Republic of Fiji



Mr. Jonathan MOORE
Chief Executive officer
Fiji Roads Authority
Republic of Fiji

ATTACHEMENT

1. Contents of the Draft Report
After the explanation of the contents of the Draft Final Report by the Team, the Fiji side agreed to its contents.
2. Cost estimate
Both sides confirmed that the cost estimate including the contingency by the Team is provisional and will be examined further by the Government of Japan for its approval. The contingency would cover the additional cost against natural disaster, unexpected natural conditions, etc.
3. Confidentiality of the cost estimate and technical specifications
Both sides confirmed that the cost estimate and technical specifications of the Project should never be disclosed to any third parties until all the contracts under the Project are concluded.
4. Japanese Grant
Procedures and Basic Principles of Japanese Grant as described in Annex 1 shall be applied to the Project. In addition, the Fiji side agreed to take necessary measures according to the procedures.
FRA shall coordinate with all the relevant authorities to ensure a smooth implementation of the Project and ensure that the undertakings for the Project shall be taken care by relevant authorities properly and on time.
5. Timeline for the project implementation
The Team explained to the Fiji side that the expected timeline for the Project implementation is as attached in Annex 2.
6. Expected outcomes and indicators
Both sides agreed that key indicators for expected outcomes are as follows which might be changed based on further consideration in the Final Report. The Fiji side will be responsible for the achievement of agreed key indicators targeted in year 2027 and shall monitor the progress based on those indicators.

[Quantitative indicators]

Index	Base Figure (Actual figures of 2018)	Target Figure (2027) (3 years after completion)
Daily number of passing vehicles	21,414	29,500
Annual Number of Passengers Passing through the Bridge (person)	25,998,000	37,236,000
Annual Volume of Cargo Passing through the Bridge (t)	4,378,000	4,641,000

[Qualitative indicators]

- This bridge is able to ensure road passing persons and conveying cargo even during natural disaster and contributes to sustainable economic development for Fiji.
- Road traffic safety is improved by ensuring one way traffic on the bridge.

7. Undertakings of the Project

Both sides confirmed the undertakings of the Project as described in Annex 3. with regard to exemption of customs duties, internal taxes and other fiscal levies as stipulated in 1. (2) No.5 of Annex 3. And also the both sides confirmed that such customs duties, internal taxes and other fiscal levies shall be clarified in the bid documents by FRA during the implementation stage of the Project.

The Fiji side assured to take the necessary measures and coordination including allocation of the necessary budget which are preconditions of implementation of the Project. It is further agreed that the costs are indicative, i.e. at Outline Design level. More accurate costs will be calculated as the Detailed Design stage.

- (1) With regard to exemption of customs duties, FRA will submit the master list of imported materials and equipment prepared by the contractor to Ministry of Economy, and receives the approval for tax exemption.
- (2) With regard to VAT (Value Added Tax), MIMS supports to ensure that Fiji Revenue and Customs Service provides tax exemption (refund system).

FRA confirmed further confirmation of the above in consultation with Ministry of Economy and Fiji Revenue and Customs Service is to be carried out at either the Detailed Design stage and implementation stage of the Project.

Both sides also confirmed that the Major Undertakings (Annex 3) will be as an attachment of G/A.

8. Monitoring during the implementation

The Project will be monitored by the Executing Agency and reported to JICA by using the form of Project Monitoring Report (PMR) attached as Annex 4. The timing of submission of the PMR is described in 1.(2) No.7 of Annex 4.

9. Project completion

Both sides confirmed that the project completes when all the facilities constructed and equipment procured by the grant are in operation. The completion of the Project will be reported to JICA promptly, but in any event not later than six months after completion of the Project.

10. Ex-Post Evaluation

JICA will conduct ex-post evaluation after three (3) years from the project completion, in principle, with respect to five evaluation criteria (Relevance, Effectiveness, Efficiency, Impact, and Sustainability). The result of the evaluation will be publicized. The Fiji side is required to provide necessary support for the data collection.

11. Items and measures to be considered for the smooth implementation of the Project

Both sides confirmed the items and measures to be considered for the smooth implementation of the Project as follows and Annex5.

- Provision of temporary construction yard and stock yard,
- Provision of borrow pit,
- Provision of disposal site,
- Land transfer,
- Relocation of overhead electric line and pole,
- Environment process,
- Tax exemption and refund, and
- Acquisition of various permission for the construction.

12. Schedule of the Study

JICA will finalize the Preparatory Survey Report based on the confirmed items. The report will be sent to the Fiji side around June 2020.

13. Environmental and Social Considerations

13-1 General Issues

13-1-1 Environmental Guidelines and Environmental Category

The Team explained that JICA Guidelines for Environmental and Social

Considerations (April 2010)' (hereinafter referred to as "the Guidelines") is applicable for the Project. The Project is categorized as B because the Project is not considered as a large-scale road and bridge project, is not located in a sensitive area, and has none of the sensitive characteristics under the Guidelines, it is not likely to have significant adverse impact on the environment.

13-1-2 Environmental Checklist

The environmental and social considerations including major impacts and mitigation measures for the Project are summarized in the Environmental Checklist attached as Annex 6. Both sides confirmed that in case of major modification of the content of the Environmental Checklist, the Fiji side shall submit the modified version to JICA in a timely manner.

13-2 Environmental Issues

13-2-1 Environmental Impact Assessment (EIA)

Both sides confirmed the EIA report will be approved by the Department of Environment by December 2020.

13-2-2 Environmental Management Plan and Environmental Monitoring Plan

Both sides confirmed Environmental Management Plan (EMP) and Environmental Monitoring Plan (EMoP) of the Project is as Annex 7, respectively. Both side agreed that environmental mitigation measures and monitoring shall be conducted based on the EMP and the EMoP, which may be updated during the detailed design stage.

13-3 Social Issues

13-3-1 Land Acquisition and Lease

Both sides confirmed the 55 m² of land would be acquired and the 24,000 m² of land would be leased. The process for land acquisition should forward following Abbreviated Resettlement Action Plan of Annex 8 to be prepared by FRA and the Team.

*Note: The leased land will be used for a construction yard and the volume of land mentioned above is provisional amount, since the land will be clarified through a discussion between FRA and a contractor.

13-4 Environmental and Social Monitoring

13-4-1 Environmental Monitoring

Both sides agreed that the Fiji side will submit results of environmental monitoring to JICA by using the monitoring form attached as Annex 9. The timing of submission of the monitoring form is described in 1.(2) No.12 of Annex 3.

13-4-2 Information Disclosure of Monitoring Results

Both sides confirmed that the Fiji side will disclose results of environmental and social monitoring to local stakeholders through their website.

The Fiji side agreed JICA will disclose results of environmental and social monitoring submitted by the Fiji side as the monitoring forms attached as Annex 9 on its website.

14. Other Relevant Issues

14-1. Disclosure of Information

Both sides confirmed that the Preparatory Survey Report from which project cost is excluded will be disclosed to the public after completion of the Preparatory Survey.

The comprehensive report including the project cost will be disclosed to the public after all the contracts under the Project are concluded.

14-2. Measure against Over-loaded Vehicle

The Team repeated that overloaded trucks which exceed designed axle loads would cause early failure and shorter life and requested that the Fiji side will take proper measure for this issue.

14-3. Safety Measure

To avoid accidents on site during the implementation of the Project, the Fiji side agreed to cause the consultant and the contractor to enforce safety measures such as setting safety assurance to the site, providing information for security control to public, and deploying adequate security personnel, based on "The Guidance for the Management of Safety for Construction Works in Japanese ODA Projects" which has been published on JICA's URL below.

https://www.jica.go.jp/english/our_work/types_of_assistance/c8h0vm00008zx0m8-att/guidance_en.pdf

Annex 1 Japanese Grant	p.6
Annex 2 Project Implementation Schedule	p.13
Annex 3 Major Undertakings to be taken by the Government of Fiji	p.14
Annex 4 Project Monitoring Report	p.18
Annex 5 Major Issues for smoothe implementation of the Project	p.27
Annex 6 Environmental Check List	p.28
Annex 7 Environmental Management Plan / Environmental Monitoring Plan	p.32
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Annex 9 Environmental and Social Monitoring Form	p.54

JAPANESE GRANT

The Japanese Grant is non-reimbursable fund provided to a recipient country (hereinafter referred to as "the Recipient") to purchase the products and/or services (engineering services and transportation of the products, etc.) for its economic and social development in accordance with the relevant laws and regulations of Japan. Followings are the basic features of the project grants operated by JICA (hereinafter referred to as "Project Grants").

1. Procedures of Project Grants

Project Grants are conducted through following procedures (See "PROCEDURES OF JAPANESE GRANT" for details):

(1) Preparation

- The Preparatory Survey (hereinafter referred to as "the Survey") conducted by JICA

(2) Appraisal

- Appraisal by the government of Japan (hereinafter referred to as "GOJ") and JICA, and Approval by the Japanese Cabinet

(3) Implementation

Exchange of Notes

- The Notes exchanged between the GOJ and the government of the Recipient

Grant Agreement (hereinafter referred to as "the G/A")

- Agreement concluded between JICA and the Recipient

Banking Arrangement (hereinafter referred to as "the B/A")

- Opening of bank account by the Recipient in a bank in Japan (hereinafter referred to as "the Bank") to receive the grant

Construction works/procurement

- Implementation of the project (hereinafter referred to as "the Project") on the basis of the G/A

(4) Ex-post Monitoring and Evaluation

- Monitoring and evaluation at post-implementation stage

2. Preparatory Survey

(1) Contents of the Survey

The aim of the Survey is to provide basic documents necessary for the appraisal of the the Project made by the GOJ and JICA. The contents of the Survey are as follows:

- Confirmation of the background, objectives, and benefits of the Project and also institutional capacity of relevant agencies of the Recipient necessary for the implementation of the Project.
- Evaluation of the feasibility of the Project to be implemented under the Japanese Grant from a technical, financial, social and economic point of view.
- Confirmation of items agreed between both parties concerning the basic concept of the Project.
- Preparation of an outline design of the Project.
- Estimation of costs of the Project.
- Confirmation of Environmental and Social Considerations

The contents of the original request by the Recipient are not necessarily approved in their initial form. The Outline Design of the Project is confirmed based on the guidelines of the Japanese Grant.

JICA requests the Recipient to take measures necessary to achieve its self-reliance in the implementation of the Project. Such measures must be guaranteed even though they may fall outside of the jurisdiction of the executing agency of the Project. Therefore, the contents of the Project are confirmed by all relevant organizations of the Recipient based on the Minutes of Discussions.

(2) Selection of Consultants

For smooth implementation of the Survey, JICA contracts with (a) consulting firm(s). JICA selects (a) firm(s) based on proposals submitted by interested firms.

(3) Result of the Survey

JICA reviews the report on the results of the Survey and recommends the GOJ to appraise the implementation of the Project after confirming the feasibility of the Project.

3. Basic Principles of Project Grants

(1) Implementation Stage

1) The E/N and the G/A

After the Project is approved by the Cabinet of Japan, the Exchange of Notes (hereinafter referred to as "the E/N") will be signed between the GOJ and the Government of the Recipient to make a pledge for assistance, which is followed by the conclusion of the G/A between JICA and the Recipient to define the necessary articles, in accordance with the E/N, to implement the Project, such as conditions of disbursement, responsibilities of the Recipient, and procurement conditions. The terms and conditions generally applicable to the Japanese Grant are stipulated in the "General Terms and Conditions for Japanese Grant (January 2016)."

2) Banking Arrangements (B/A) (See "Financial Flow of Japanese Grant (A/P Type)" for details)

- a) The Recipient shall open an account or shall cause its designated authority to open an account under the name of the Recipient in the Bank, in principle. JICA will disburse the Japanese Grant in Japanese yen for the Recipient to cover the obligations incurred by the Recipient under the verified contracts.
- b) The Japanese Grant will be disbursed when payment requests are submitted by the Bank to JICA under an Authorization to Pay (A/P) issued by the Recipient.

3) Procurement Procedure

The products and/or services necessary for the implementation of the Project shall be procured in accordance with JICA's procurement guidelines as stipulated in the G/A.

4) Selection of Consultants

In order to maintain technical consistency, the consulting firm(s) which conducted the Survey will be recommended by JICA to the Recipient to continue to work on the Project's implementation after the E/N and G/A.

5) Eligible source country

In using the Japanese Grant disbursed by JICA for the purchase of products and/or services, the eligible source countries of such products and/or services shall be Japan and/or the Recipient. The Japanese Grant may be used for the purchase of the products and/or services of a third country as eligible, if necessary, taking into account the quality, competitiveness and economic rationality of products and/or services necessary for achieving the objective of the Project. However, the prime contractors, namely, constructing and procurement firms, and the prime consulting firm, which enter into contracts with the Recipient, are

limited to "Japanese nationals", in principle.

6) Contracts and Concurrence by JICA

The Recipient will conclude contracts denominated in Japanese yen with Japanese nationals. Those contracts shall be concurred by JICA in order to be verified as eligible for using the Japanese Grant.

7) Monitoring

The Recipient is required to take their initiative to carefully monitor the progress of the Project in order to ensure its smooth implementation as part of their responsibility in the G/A, and to regularly report to JICA about its status by using the Project Monitoring Report (PMR).

8) Safety Measures

The Recipient must ensure that the safety is highly observed during the implementation of the Project.

9) Construction Quality Control Meeting

Construction Quality Control Meeting (hereinafter referred to as the "Meeting") will be held for quality assurance and smooth implementation of the Works at each stage of the Works. The member of the Meeting will be composed by the Recipient (or executing agency), the Consultant, the Contractor and JICA. The functions of the Meeting are as followings:

- a) Sharing information on the objective, concept and conditions of design from the Contractor, before start of construction.
- b) Discussing the issues affecting the Works such as modification of the design, test, inspection, safety control and the Client's obligation, during of construction.

(2) Ex-post Monitoring and Evaluation Stage

1) After the project completion, JICA will continue to keep in close contact with the Recipient in order to monitor that the outputs of the Project is used and maintained properly to attain its expected outcomes.

2) In principle, JICA will conduct ex-post evaluation of the Project after three years from the completion. It is required for the Recipient to furnish any necessary information as JICA may reasonably request.

(3) Others

1) Environmental and Social Considerations

The Recipient shall carefully consider environmental and social impacts by the Project and must comply with the environmental regulations of the Recipient and JICA Guidelines for Environmental and Social Considerations (April, 2010).

2) Major undertakings to be taken by the Government of the Recipient

For the smooth and proper implementation of the Project, the Recipient is required to undertake necessary measures including land acquisition, and bear an advising commission of the A/P and payment commissions paid to the Bank as agreed with the GOJ and/or JICA. The Government of the Recipient shall ensure that customs duties, internal taxes and other fiscal levies which may be imposed in the Recipient with respect to the purchase of the Products and/or the Services be exempted or be borne by its designated authority without using the Grant and its accrued interest, since the grant fund comes from the Japanese taxpayers.

3) Proper Use

The Recipient is required to maintain and use properly and effectively the products and/or services under the Project (including the facilities constructed and the equipment purchased), to assign staff necessary for this operation and maintenance and to bear all the expenses other than those covered by the Japanese Grant.

4) Export and Re-export.

The products purchased under the Japanese Grant should not be exported or re-exported from the Recipient.

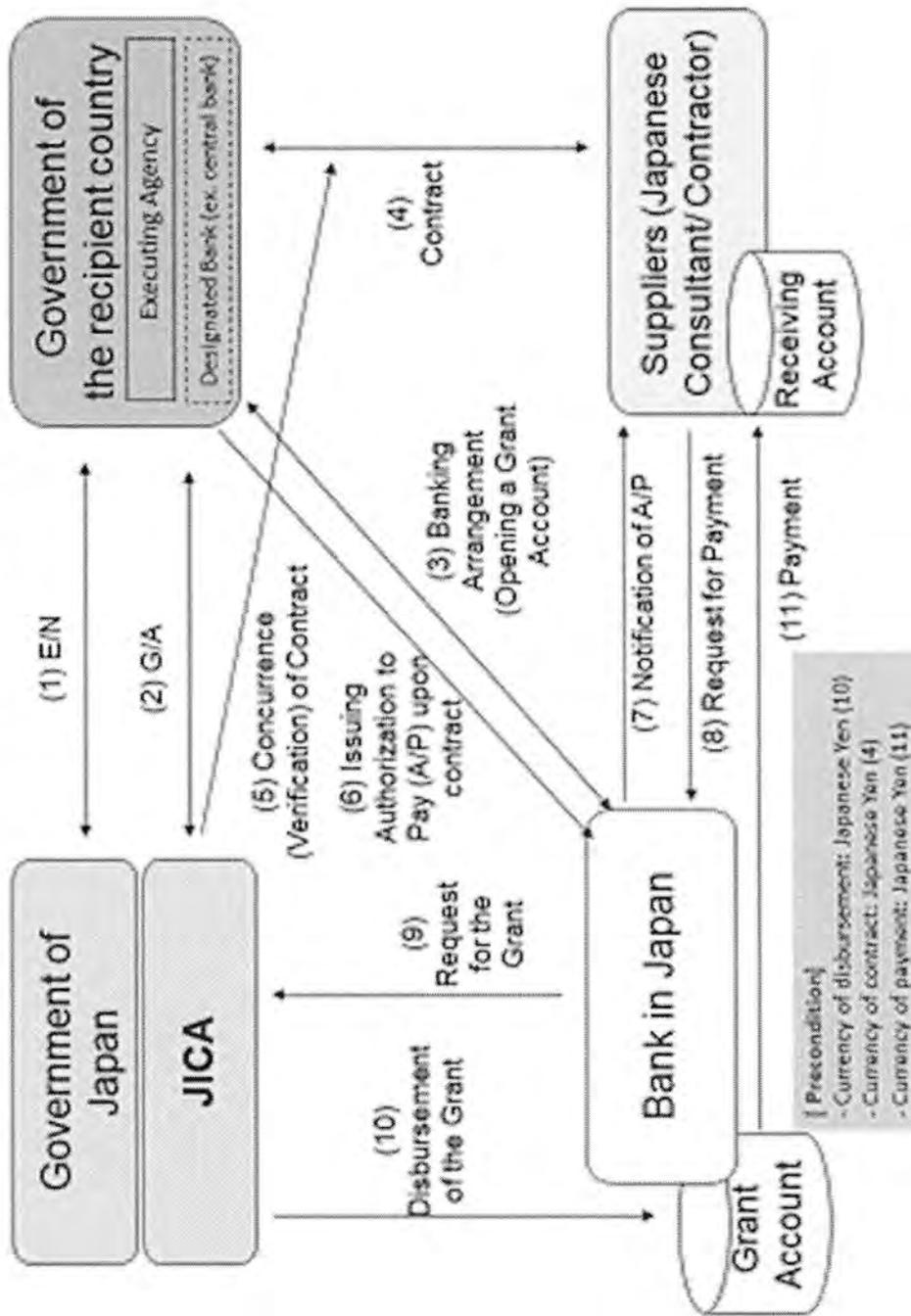
PROCEDURES OF JAPANESE GRANT

Stage	Procedures	Remarks	Recipient Government	Japanese Government	JICA	Consultants	Contractors	Agent Bank
Official Request	Request for grants through diplomatic channel	Request shall be submitted before appraisal stage.	x	x				
1. Preparation	(1) Preparatory Survey Preparation of outline design and cost estimate		x		x	x		
	(2) Preparatory Survey Explanation of draft outline design, including cost estimate, undertakings, etc.		x		x	x		
2. Appraisal	(3) Agreement on conditions for implementation	Conditions will be explained with the draft notes (E/N) and Grant Agreement (G/A) which will be signed before approval by Japanese government.	x	x (E/N)	x (G/A)			
	(4) Approval by the Japanese cabinet			x				
3. Implementation	(5) Exchange of Notes (E/N)		x	x				
	(6) Signing of Grant Agreement (G/A)		x		x			
	(7) Banking Arrangement (B/A)	Need to be informed to JICA	x					x
	(8) Contracting with consultant and issuance of Authorization to Pay (A/P)	Concurrence by JICA is required	x			x		x
	(9) Detail design (D/D)		x			x		
	(10) Preparation of bidding documents	Concurrence by JICA is required	x			x		
	(11) Bidding	Concurrence by JICA is required	x			x	x	
	(12) Contracting with contractor/supplier and issuance of A.P	Concurrence by JICA is required	x				x	x
4. Ex-post monitoring & evaluation	(13) Construction works/procurement	Concurrence by JICA is required for major modification of design and amendment of contracts.	x			x	x	
	(14) Completion certificate		x			x	x	
	(15) Ex-post monitoring	To be implemented generally after 1, 3, 10 years of completion, subject to change	x		x			
	(16) Ex-post evaluation	To be implemented basically after 3 years of completion	x		x			

notes:

1. Project Monitoring Report and Report for Project Completion shall be submitted to JICA as agreed in the G/A.
2. Concurrence by JICA is required for allocation of grant for remaining amount and/or contingencies as agreed in the G/A.

Financial Flow of Japanese Grant (A/P Type)



[Handwritten mark]

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Project Implementation Schedule

Year	2020												2021											
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Month																								
Schedule (month)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Implementation design	Field survey												Domestic analysis/detailed design											
	↓												↑											
	Bid-related work																							

Year	2021												2022												2023												2024				
	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5									
Month																																									
Schedule (month)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32									
Construction/procurement	Preparation work												Soft ground prevention work																												
													Substructure																												
													PC girder production																												
													PC girder installation																												
													Bridge surface work																												
													Access road work																												
	Revetment work																								Subsequent change																

Major Undertakings to be taken by the Government of Fiji

1. Specific obligations of the Government of Fiji which will not be funded with the Grant

(1) Before the Tender

NO	Items	Deadline	In charge	Estimated Cost (FJD)	Ref.
1	To open bank account (B/A)	within 1 month after the signing of the G/A	MOE/ FRA	95,000	*1
2	To issue A/P to a bank in Japan (the Agent Bank) for the payment to the consultant	within 1 month after the signing of the contract	MOE/ FRA		*2
3	To prepare EIA(Conditions of approval should be fulfilled, if any) and secure the necessary budget for implementation.	before December, 2020	MWE/ FRA	20,000	*3
4	To acquire an affected lease land	before notice of the tender document	FRA	50,517	
5	To secure Project site, temporary yard, borrow pit and disposal area.	before notice of the tender document	FRA	362,895	
6	To remove and relocate the following facilities. 1) Cutting trees and mangroves at the project site and temporary yard 2) Demolition of the existing bridge and old bridge piers, except abutments. 3) Relocation of Water Pipe (WAF), Power Line (FEA) and Fiber Optics (TFL) from the existing bridge to FRA Bridge. 4) Relocation of Electric Poles (FEA) which will hinder the construction of Japan Bridge. (4 Poles x \$15,000) 5) Bus Shelter Relocation (Replace with New Shelters)	before notice of the tender document	FRA	1) 15,000 2) 1,922,730 3) 1,388,500 4) 60,000 5) 90,000	*4
7	To obtain the planning, zoning, building permit	before notice of the tender document	FRA		
8	To submit Project Monitoring Report (with the result of Detail Design)	before preparation of bidding documents	FRA	8,000	

(B/A: Banking Arrangement, A/P: Authorization to pay, N/A: Not Applicable)

*1 MOE: Ministry of Economy, FRA: Fiji Roads Authority

*2 The estimated cost is included in the cost shown in 1. (1) No. 1.

*3 MWE: Ministry of Waterways & Environment

*4 The estimated cost for 2) & 3) is included in the contract for construction of FRA Bridge. The amount for 4) is provisional and to be confirmed in the detailed design stage.

(2) During the Project Implementation

NO	Items	Deadline	In charge	Estimated Cost (FJD)	Ref.
1	To issue A/P to a bank in Japan (the Agent Bank) for the payment to the Contractor	within 1 month after the signing of the contract	MOE/ FRA		*5
2	To bear the following commissions to a bank in Japan for the banking services based upon the B/A				*6
	1) Advising commission of A/P	within 1 month after the signing of the contract	MOE/ FRA		
	2) Payment commission for A/P	every payment	MOE/ FRA		
3	To ensure prompt unloading and customs clearance at ports of disembarkation in recipient country and to assist the Contractor with internal transportation therein	during the Project	FRCS/ FRA		*7
4	To accord Japanese nationals and/or physical persons of third countries whose services may be required in connection with the supply of the products and the services such facilities as may be necessary for their entry into the country of the Recipient and stay therein for the performance of their work	during the Project	FRA		
5	To ensure for FRA that customs duties, internal taxes and other fiscal levies which may be imposed in the country of the Recipient with respect to the purchase of the products and/or the services be exempted/ be borne by its designated authority without using the Grant	during the Project	FRCS/ FRA	461,894	
6	To ensure for Contractor that customs duties, internal taxes and other fiscal levies which may be imposed in the country of the Recipient with respect to the purchase of the products and/or the services be exempted/ be borne by its designated authority without using the Grant	during the Project	FRCS/ FRA	805,000	
7	To bear all the expenses, other than those covered by the Grant, necessary for the implementation of the Project	during the Project	FRCS/ FRA		
8	1) To submit Project Monitoring Report	every month	FRA	39,000	
	2) To submit Project Monitoring Report (final)	within one month after signing of Certificate of Completion for the works under the contract	FRA	8,000	
9	To submit a report concerning completion of the Project	within six months after completion of the Project	FRA	12,000	
10	To provide facilities for distribution of electricity, water supply and drainage and other incidental facilities necessary for the implementation of the Project				
	1) Electricity The distributing line to the site	before start of the construction	FRA	30,000	
	2) Water Supply The city water distribution main to the site	before start of the construction	FRA	10,000	
	3) Drainage The city drainage main (for storm, sewer and others) to the site	before start of the construction	FRA	25,000	

11	To take necessary measure for safety construction - traffic control - rope off	during the construction	FRA	180,000	
12	To implement EMP and EMoP	during the construction	FRA/ Contractor	20,000	*8
13	To submit results of environmental monitoring to JICA, by using the monitoring form, on a quarterly basis as a part of Project Monitoring Report	during the construction	FRA	12,000	
14	To implement ARAP (livelihood restoration program, if needed)	for a period based on livelihood restoration program	FRA		*9
15	To implement social monitoring, and to submit the monitoring results to JICA, by using the monitoring form, on a quarterly basis as a part of Project Monitoring Report - Period of the monitoring may be extended if affected person's livelihoods are not sufficiently restored. Extension of the monitoring will be decided based on agreement between FRA and JICA.	- until the end of livelihood restoration program (In case that livelihood restoration program is provided) - for two years after land acquisition complete (In case that livelihood restoration program is not provided)	FRA		
16	To supervise and manage contract of the Project by FRA	during the construction	FRA	640,000	

*5 The estimated cost is included in the cost shown in 1. (1) No.1.

*6 The estimated cost is included in the cost shown in 1. (1) No.1.

*7 FRCS: Fiji Revenue and Custom Service

*8 EMP: Environmental Management Plan, EMoP: Environmental Monitoring Plan

*9 ARAP: Abbreviated Resettlement Action Plan

(3) After the Project

NO	Items	Deadline	In charge	Estimated Cost (FJD)	Ref.
1	To implement EMP and EMoP	for a period based on EMP and EMoP	FRA	10,000	
2	To submit results of environmental monitoring to JICA, by using the monitoring form, semiannually - The period of environmental monitoring may be extended if any significant negative impacts on the environment are found. The extension of environmental monitoring will be decided based on the agreement between FRA and JICA.	for three years after the Project	FRA	10,000	
3	To maintain and use properly and effectively the facilities constructed and equipment provided under the Grant Aid 1) Allocation of maintenance cost 2) Operation and maintenance structure 3) Routine check/Periodic inspection	After completion of the construction	FRA	123,510 (61,755/year (for 2years))	

2. Other obligations of the Government of Fiji funded with the Grant

NO	Items	Deadline	Amount (Million Japanese Yen)*
1	To construct bridge and access road	during the construction	/
2	To implement detailed design, bidding support and construction supervision (Consulting Service)		
3	Contingencies		
	Total		

*The Amount is provisional. This is subject to the approval of the Government of Japan.

Project Monitoring Report
on
Project Name
Grant Agreement No. XXXXXXXX
20XX, Month

Organizational Information

Signer of the G/A (Recipient)	Person in Charge (Designation) _____
	Contacts _____
	Address: _____
	Phone/FAX: _____ Email: _____
Executing Agency	Person in Charge (Designation) _____
	Contacts _____
	Address: _____
	Phone/FAX: _____ Email: _____
Line Ministry	Person in Charge (Designation) _____
	Contacts _____
	Address: _____
	Phone/FAX: _____ Email: _____

General Information:

Project Title	
E/N	Signed date: Duration:
G/A	Signed date: Duration:
Source of Finance	Government of Japan: Not exceeding JPY _____ mil. Government of (_____): _____

1: Project Description	
-------------------------------	--

1-1 Project Objective

1-2 Project Rationale

- Higher-level objectives to which the project contributes (national/regional/sectoral policies and strategies)
- Situation of the target groups to which the project addresses

1-3 Indicators for measurement of "Effectiveness"

Quantitative indicators to measure the attainment of project objectives		
Indicators	Original (Yr)	Target (Yr)
Qualitative indicators to measure the attainment of project objectives		

2: Details of the Project

2-1 Location

Components	Original <i>(proposed in the outline design)</i>	Actual
1.		

2-2 Scope of the work

Components	Original* <i>(proposed in the outline design)</i>	Actual*
1.		

Reasons for modification of scope (if any).

(PMR)

2-3 Implementation Schedule

Items	Original		Actual
	<i>(proposed in the outline design)</i>	<i>(at the time of signing the Grant Agreement)</i>	

Reasons for any changes of the schedule, and their effects on the project (if any)

--

2-4 Obligations by the Recipient

2-4-1 Progress of Specific Obligations
 See Attachment 2.

2-4-2 Activities
 See Attachment 3.

2-4-3 Report on RD
 See Attachment 11.

2-5 Project Cost

2-5-1 Cost borne by the Grant(Confidential until the Bidding)

Components			Cost (Million Yen)	
	Original <i>(proposed in the outline design)</i>	Actual <i>(in case of any modification)</i>	Original ^{1),2)} <i>(proposed in the outline design)</i>	Actual
1.				
Total				

Note: 1) Date of estimation:
 2) Exchange rate: 1 US Dollar = Yen

2-5-2 Cost borne by the Recipient

Components			Cost (1,000 Taka)	
	Original <i>(proposed in the outline design)</i>	Actual <i>(in case of any modification)</i>	Original ^{1),2)} <i>(proposed in the outline design)</i>	Actual
1.				

- Note: 1) Date of estimation:
2) Exchange rate: 1 US Dollar =

Reasons for the remarkable gaps between the original and actual cost, and the countermeasures (if any)

(PMR)

2-6 Executing Agency

- Organization's role, financial position, capacity, cost recovery etc,
- Organization Chart including the unit in charge of the implementation and number of employees.

Original (at the time of outline design) name: role: financial situation: institutional and organizational arrangement (organogram): human resources (number and ability of staff):
Actual (PMR)

2-7 Environmental and Social Impacts

- The results of environmental monitoring based on Attachment 5 (in accordance with Schedule 4 of the Grant Agreement).
- The results of social monitoring based on in Attachment 5 (in accordance with Schedule 4 of the Grant Agreement).
- Disclosed information related to results of environmental and social monitoring to local stakeholders (whenever applicable).

3: Operation and Maintenance (O&M)

3-1 Physical Arrangement

- Plan for O&M (number and skills of the staff in the responsible division or section, availability of manuals and guidelines, availability of spareparts, etc.)

Original (at the time of outline design)
Actual (PMR)

3-2 Budgetary Arrangement

- Required O&M cost and actual budget allocation for O&M

Original (at the time of outline design)

Actual (PMR)

4: Potential Risks and Mitigation Measures

- Potential risks which may affect the project implementation, attainment of objectives, sustainability
- Mitigation measures corresponding to the potential risks

Assessment of Potential Risks (at the time of outline design)

Potential Risks	Assessment
1. (Description of Risk)	Probability: High/Moderate/Low
	Impact: High/Moderate/Low
	Analysis of Probability and Impact:
	Mitigation Measures:
	Action required during the implementation stage:
2. (Description of Risk)	Probability: High/Moderate/Low
	Impact: High/Moderate/Low
	Analysis of Probability and Impact:
	Mitigation Measures:
	Action required during the implementation stage:
3. (Description of Risk)	Probability: High/Moderate/Low
	Impact: High/Moderate/Low
	Analysis of Probability and Impact:
	Mitigation Measures:
	Action required during the implementation stage:

	Contingency Plan (if applicable):
Actual Situation and Countermeasures	
(PMR)	

5: Evaluation and Monitoring Plan (after the work completion)

5-1 Overall evaluation

Please describe your overall evaluation on the project.

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5-2 Lessons Learnt and Recommendations

Please raise any lessons learned from the project experience, which might be valuable for the future assistance or similar type of projects, as well as any recommendations, which might be beneficial for better realization of the project effect, impact and assurance of sustainability.

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5-3 Monitoring Plan of the Indicators for Post-Evaluation

Please describe monitoring methods, section(s)/department(s) in charge of monitoring, frequency, the term to monitor the indicators stipulated in 1-3.

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Attachment

1. Project Location Map
 2. Specific obligations of the Recipient which will not be funded with the Grant
 3. Monthly Report submitted by the Consultant
- Appendix - Photocopy of Contractor's Progress Report (if any)
- Consultant Member List
 - Contractor's Main Staff List
4. Check list for the Contract (including Record of Amendment of the Contract/Agreement and Schedule of Payment)
 5. Environmental Monitoring Form / Social Monitoring Form
 6. Monitoring sheet on price of specified materials (Quarterly)
 7. Report on Proportion of Procurement (Recipient Country, Japan and Third Countries) (PMR (final) only)
 8. Pictures (by JPEG style by CD-R) (PMR (final) only)
 9. Equipment List (PMR (final) only)
 10. Drawing (PMR (final) only)
 11. Report on RD (After project)

Remark : No. 6, 7 are attached in this document for reference.

Monitoring sheet on price of specified materials

1. Initial Conditions (Confirmed)

Items of Specified Materials	Initial Volume A	Initial Unit Price (¥) B	Initial total Price C=A×B	1% of Contract Price D	Condition of payment Price (Decreased) E=C-D	Condition of payment Price (Increased) F=C+D
Item 1	●●t	●	●●	●	●	●
Item 2	●●t	●	●●	●		
Item 3						
Item 4						
Item 5						

2. Monitoring of the Unit Price of Specified Materials

(1) Method of Monitoring : ●●

(2) Result of the Monitoring Survey on Unit Price for each specified materials

Items of Specified Materials	1st month, 2015	2nd month, 2015	3rd month, 2015	4th	5th	6th
Item 1	●	●	●			
Item 2						
Item 3						
Item 4						
Item 5						

(3) Summary of Discussion with Contractor (if necessary)

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Report on Proportion of Procurement (Recipient Country, Japan and Third Countries)
(Actual Expenditure by Construction and Equipment each)

	Domestic Procurement (Recipient Country) A	Foreign Procurement (Japan) B	Foreign Procurement (Third Countries) C	Total D
Construction Cost	(A/D%)	(B/D%)	(C/D%)	
Direct Construction Cost	(A/D%)	(B/D%)	(C/D%)	
others	(A/D%)	(B/D%)	(C/D%)	
Equipment Cost	(A/D%)	(B/D%)	(C/D%)	
Design and Supervision Cost	(A/D%)	(B/D%)	(C/D%)	
Total	(A/D%)	(B/D%)	(C/D%)	

Major Issues to be Considered for Smooth Implementation of the Project

1. Environmental Impact Assessment
It should be completed by December 2020
2. To secure the Project site, temporary construction yard, borrow pit and disposal site
It should be completed within 1 month after the signing of the G/A on construction part.
3. To ensure that customs duties, internal taxes and other fiscal levies which may be imposed in the country of the Recipient with respect to the purchase of the products and/or the services be exempted/ be borne by its designated authority without using the Grant Procedures for these should be taken according to the requests by Japanese side.

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Annex 6 Environmental Check List

Category	Environmental Items	Main Check Items	Yes: Y No: N	Specific environmental and social considerations (Reason for 'yes' or 'no', grounds, mitigation measures, etc.)
1 Permits and Explanation	(1) EIA and Environmental Permits	(a) Have EIA reports already been prepared in the official process? (b) Have EIA reports been approved by the authorities of the host country's government? (c) Have EIA reports been unconditionally approved? If conditions are imposed on the approval of EIA reports, have they been satisfied? (d) In addition to the above approvals, have other required environmental permits been obtained from the appropriate regulatory authorities of the host country's government?	(a)N (b)N (c)N (d)Y	(a) An EIA report will be finalized by the FRA based on the preparatory study report prepared by the JICA Study Team. (b) The FRA is to follow the procedure for EIA approval speculated in the Environmental Management Regulation (2007) after finalization of the EIA report. The MoE will be the executive authority for EIA approval. (c) The EIA report will be finalized by the FRA and submitted to the MoE for EIA approval. (d) Several permissions are required to proceed with construction works, all of which are summarized in the preparatory study report.
	(2) Explanation to the Local Stakeholders	(a) Have the contents of the project and the potential impacts been adequately explained to the local stakeholders based on appropriate procedures, including information disclosure? Has the understanding of local stakeholders been obtained? (b) Have the comment from stakeholders (such as local residents) been reflected in the project design?	(a)Y (b)Y	(a) Stakeholder meetings with the relevant institutions, including local governments, NGOs and residents, were held to share project information. (b) Stakeholder meetings with residents were also held in the draft final stage and all the comments from residents will be reflected in the final EIA report.
	(3) Examination of Alternatives	(a) Have alternative plans for the project been examined with social and environmental considerations?	(a)Y	(a) An alternative analysis was carried out during the basic design stage with a thorough social and environmental consideration study.
2 Pollution Control	(1) Air Quality	(a) Is there a possibility that air pollutants emitted from project-related sources, such as vehicle traffic, will affect ambient air quality? Does ambient air quality comply with the country's air quality standards? Will any mitigating measures be taken? (b) Where industrial areas already exist near the route, is there a possibility of the project exacerbating air pollution?	(a)Y (b)Y	(a) Some negative impacts on ambient air quality due to the construction works are expected, but countermeasures, including spraying water and managing construction machines effectively, will be implemented. (b) Since the project is relatively modest in scope and there is no facility potentially worsening ambient air quality, there is no secondary negative impact triggered by the project.
	(2) Water Quality	(a) Is there a possibility that soil runoff from bare land resulting from earthmoving activities, such as cutting and filling, will cause water quality to decline in downstream areas? (b) Is there a possibility that surface runoff from roads will contaminate water sources, such as groundwater?	(a)Y (b)Y (c)Y (d)N	(a) Erosion of the approach road embankment during either construction or operational phases would result in a decline in river water quality. (b) Inappropriate runoff treatment of the planned approach roads attached to the newly built bridge would contaminate the river water of the Tamavua River.
	(3) Waste	(a) Is waste generated from the project facilities, such as parking areas/service areas, properly treated and disposed of in accordance with the country's regulations?	(a)Y	(a) Regular waste generated from the project facilities is to be transported to Naboro Landfill and disposed of in accordance with Fiji's disposal regulation. Other industrial waste which might contain hazardous substances is to be treated by the licensed company.
	(4) Noise and Vibration	(a) Do noise and vibrations from vehicles and train traffic comply with the country's standards? (b) Is low-frequency noise from passing vehicles and railways consistent with the country's standard?	(a)Y (b)Y	(a) & (b) An EIA report sets noise and vibration standards based on the standards of IFC and Japan since no such standards exist in Fiji.
3 Natural Environment	(1) Protected Areas	(a) Is the project site located in protected areas designated by the country's laws or international treaties and conventions? Is there a possibility that the project will affect the protected areas?	(a)N	(a) There is no protected area or area designated by international treaties and conventions near the construction site.
	(2) Ecosystem	(a) Does the project site encompass primeval forests, tropical rain forests, ecologically valuable habitats (e.g. coral reefs, mangroves, or tidal flats)? (b) Does the project site encompass the protected habitats of endangered species as designated by the country's laws or international treaties and conventions? (c) If significant ecological impacts are anticipated, are adequate protection measures taken to reduce the impacts on the ecosystem?	(a)Y (b)N (c)Y (d)Y (e)N (f)N	(a) Part of the mangrove vegetation will have to be cut for the project, but this environmental impact is insignificant since the scope is comparatively low. (b) No endangered species near the project site has been found, through either a field survey or researching existing references. (c) Replanting of mangrove seedlings will be carried out as a mitigation measure for cutting part of the mangrove vegetation. (ten seedlings for one cut

Category	Environmental Items	Main Check Items	Yes: Y No: N	Specific environmental and social considerations (Reason for 'yes' or 'no', grounds, mitigation measures, etc.)
		(d) Are adequate protection measures taken to prevent impacts, such as disruption of migration routes, habitat fragmentation and traffic accidents of wildlife and livestock? (e) Is there a possibility that installation of roads will have an impact, such as destruction of forests, poaching, desertification, reduction of wetland areas and disturbance of ecosystems due to the introduction of exotic (non-native invasive) species and pests? Have adequate measures to prevent such impacts been considered?		mangrove) (d) Installation of a barrier fence between vegetation near the river and construction site will be implemented to prevent traffic accidents during the construction phase. (e) Since the construction site is located in an industrial zone, there would be neither an ecologically significant ecosystem nor scope for the new development to cause extensive loss of the natural environment.
	(3) Hydrology	(a) Is there a possibility that alteration of topographic features and installation of structures like tunnels will adversely affect surface water and groundwater flows?	(a)N	(a) The bridge construction project will not comprise the installation of structures which could change topographic features or affect surface and ground water flows.
	(4) Topography and Geology	(a) Is there any soft ground on the route that may cause slope failures or landslides? Have adequate measures been considered to prevent slope failures or landslides, where needed? (b) Is there a possibility that civil works, such as cutting and filling, will cause slope failures or landslides? Have adequate measures been considered to prevent slope failures or landslides? (c) Is there a possibility that soil runoff will result from cut-and-fill areas, waste soil disposal sites and borrow sites? Have adequate measures been taken to prevent soil runoff?	(a)N (b)N (c)N/Y	(a) There is no area prone to landslides on the project site. (b) No work component is expected to result in any landslides. (c) There are no concerns for landslides at the project site and borrowed pit given the minor volume of the required cut-and-fill. However, the need to monitor the embankment condition shall be taken into consideration. Soil erosion of the embankment of new road would be expected.
4 Social Environment	(1) Resettlement	(a) Does implementing the project involve any involuntary resettlement? If so, have efforts been made to minimize the impacts caused? (b) Has adequate explanation on compensation and resettlement assistance been given to affected people prior to resettlement? (c) Is the resettlement plan, including compensation with full replacement costs, restoration of livelihoods and living standards developed based on socioeconomic resettlement studies? (d) Is the compensation going to be paid prior to the resettlement? (e) Are the compensation policies prepared in a document? (f) Does the resettlement plan focus particularly on vulnerable groups or people, including women, children, the elderly and people below the poverty line, ethnic minorities and indigenous peoples? (g) Are agreements with those affected obtained prior to resettlement? (h) Is an organizational framework established to properly implement resettlement? Are the capacity and budget secured to implement the plan? (i) Are any plans developed to monitor the impacts of resettlement? (j) Is a grievance redress mechanism established?	(a)Y (b)Y (c)Y (d)Y (e)Y (f)Y (g)Y (h)Y (i)Y (j)Y	(a) Three (3) involuntary resettlements will be required for the project. Alternative analysis to minimize the social impact was carried out during the design stage. (b) Public consultation with the PAPs was held to share information about the project and items relevant with further resettlement activity during the design stage and will be held when the details of compensation are fixed. (c) A socioeconomic survey of the PAPs was conducted to prepare the Abbreviated Resettlement Action Plan (ARAP) and all the compensation policy in the ARAP is prepared based on the survey results. The ARAP will be finalized during the detailed design stage. (d) The ARAP report specifies that compensation payment shall be completed prior to actual displacement. (e) The ARAP report specifies compensation policy. (f) An entitlement matrix in the ARAP report was prepared based on particular consideration for the socially vulnerable, including the poor and indigenous peoples. (g) Agreement with PAPs will be obtained based on the implementation flow and schedule in the ARAP report. (h) The ARAP report clarifies the organization framework relevant with resettlement activity, as well as a budget source for the compensation. (i) The ARAP report specifies a monitoring plan to the PAPs after displacement. (j) The ARAP report specifies a grievance redress mechanism and clarifies the responsible institution.

Category	Environmental Items	Main Check Items	Yes: Y No: N	Specific environmental and social considerations (Reason for 'yes' or 'no', grounds, mitigation measures, etc.)
4 Social Environment	(2) Living and Livelihood	(a) Where roads are newly installed, is there a possibility that the project will affect the existing means of transportation and the associated workers? Is there a possibility that the project will cause significant impacts, such as extensive alteration of existing land uses, changes in sources of livelihood, or unemployment? Have adequate measures been considered to prevent these impacts? (b) Is there a possibility that the project will adversely affect the living conditions of the inhabitants other than the target population? Have adequate measures been considered to reduce the impacts, if necessary? (c) Is there a possibility that diseases, including infectious diseases, such as HIV will be brought due to the influx of workers associated with the project? Have adequate considerations been given to public health, if necessary? (d) Is there a possibility that the project will adversely affect road traffic in the surrounding areas (e.g. increase in traffic congestion and traffic accidents)? (e) Is there a possibility that roads will hinder the mobility of inhabitants? (f) Is there a possibility that structures associated with roads (such as bridges) will cause sun shading and radio interference?	(a)N (b)N (c)Y (d)N (e)N (f)N	(a) There will be no major traffic control on the main road during the construction period since the new bridge will be built next to the existing bridge. However, the construction of new approach road will require a diversion road accessing to main road for the relevant residents. (b) The road access to and from the Tamavua-i-wai Road will decline, but construction of a roundabout will mitigate the impact. (c) The influx of workers would have some negative impact on infectious diseases. Establishment of a health check system for construction workers was specified in the prepared EIA report. (d) No negative impact on the road environment is concerned since there is no complex traffic control during the construction phase. (e) Since the new bridge will be constructed by the existing bridge and the bridge can be in operation during construction, accessibility for residents would not be significantly disturbed. (f) No structure associated with sunshade and radio disturbance will be built for the project.
	(3) Heritage	(a) Is there a possibility that the project will damage the local archaeological, historical, cultural and religious heritage? Have adequate measures been considered to protect these sites in accordance with the country's laws?	(a)N	(a) Although Suva Cemetery is located near the project site, particular concerns not to disturb the cemetery were taken into consideration during the design phase.
	(4) Landscape	(a) Is there a possibility that the project will adversely affect the local landscape? Have the necessary measures been taken?	(a)N	(a) No significant negative impact on landscape is concerned since the project site is located adjacent to an industrial zone.
	(5) Ethnic Minorities and Indigenous Peoples	(a) Are considerations given to reduce the impacts on the culture and lifestyle of ethnic minorities and indigenous peoples? (b) Are all the rights of ethnic minorities and indigenous peoples in relation to land and resources to be respected?	(a)N (b)N	(a) and (b) Neither ethnic minorities nor indigenous people are found in the PAPs.
	(6) Working Conditions	(a) Is the project proponent violating any laws and ordinances associated with the working conditions of the country which the project proponent should observe in the project? (b) Are tangible safety considerations in place for individuals involved in the project, such as the installation of safety equipment which prevents industrial accidents and management of hazardous materials? (c) Are intangible measures being planned and implemented for individuals involved in the project, such as the establishment of a safety and health programme and safety training (including traffic safety and public health) for workers etc.? (d) Are appropriate measures being taken to ensure that security guards involved in the project do not threaten the safety of other individuals involved, or local residents?	(a)Y (b)Y (c)Y (d)Y	(a) The proponent and construction contractor shall comply with the Employment Relations Act 2007 and other relevant acts to protect employees' rights and monitoring by construction supervision to check working environment is established on the EIA report. (b) and (c) All measures, regardless of whether tangible or intangible, for a safe working environment will be implemented by the construction contractor and specified in the Environmental Management Plan (EMP) finalized by the contractor. (d) The construction contractor will oversee security of construction materials and other equipment, which will be clarified in the finalized EMP.
	5 Others	(1) Impacts during Construction	(a) Have adequate measures been considered to reduce impacts during construction (e.g. noise, vibrations, turbid water, dust, exhaust gases and waste)? (b) If construction activities adversely affect the natural environment (ecosystem), have adequate measures been considered to reduce impacts? (c) If construction activities adversely affect the social environment, have adequate measures been considered to reduce impacts?	(a)Y (b)Y (c)Y
(2) Monitoring		(a) Will the proponent develop and implement a monitoring programme for the environmental items considered to have potential impacts?	(a)Y (b)Y (c)Y	(a) The EIA and ARAP specify a monitoring plan with the responsible institutions to check for any adverse impact during the construction and operation phases.

Category	Environmental Items	Main Check Items	Yes: Y No: N	Specific environmental and social considerations (Reason for 'yes' or 'no', grounds, mitigation measures, etc.)
		(b) What are the items, methods and frequencies of the monitoring programme? (c) Will the proponent establish an adequate monitoring framework (organization, personnel, equipment and adequate budget to sustain the monitoring framework)? (d) Are any regulatory requirements pertaining to the monitoring report system identified, such as the format and frequency of reports from the proponent to the regulatory authorities?	(d)Y	(b) Monitoring for pollution control will be carried out by a periodical site measurement survey conducted by the construction contractor, (basically biannual. The FRA will oversee monitoring of the social environment and conduct such monitoring based on a periodical interview survey. (c) The FRA owns an Environmental Unit and is eligible to outsource environmental and social experts from a local consultant. (d) A monitoring sheet is prepared on the EIA report and will be finalized by the construction contractor based on the actual work component. The EIA specifies the submission of the monitoring report to the FRA as well as JICA.
6 Note	(1) Reference to Checklist of Other Sectors	(a) Where necessary, pertinent items described in the Forestry Projects checklist should also be checked (e.g. projects including large areas of deforestation). (b) Where necessary, pertinent items described in the Power Transmission and Distribution Lines checklist should also be checked (e.g. projects including installation of power transmission lines and/or electric distribution facilities).	(a) - (b) -	(a) and (b): There are no items to be verified in another environmental revision list.
	(2) Notes on Using Environmental Checklist	(a) If necessary, the impacts on transboundary or global issues should be confirmed, if necessary (e.g. the project includes factors that may cause problems, such as transboundary waste treatment, acid rain, destruction of the ozone layer, or global warming).	(a) -	(a) No specific impacts are expected on a global scale or trans-border problems.

Source: Preparatory Survey Report on The Project for Reconstruction of Tamavua-I-Wai Bridge in the Republic of Fiji (March 2020)

(1) Environmental Management Plan

Items of the Environmental Management Plan

Category	#	Impacted Item on JICA GL	Major Mitigation Measures		Responsibility	
			Pre and During Construction phase	Operation phase	Implementation Agency	Responsible Agency
Pollution Control	1	Air pollution	[Dust] -Sprinkle water for dust nuisance [Exhaust gas] -Use low emission construction machinery to avoid high exhaust gas emissions -Thorough management of construction machines to avoid inappropriate gas emission.	- Vehicle maintenance regulations for gas emission control from vehicles shall be enforced. - A monitoring or surveillance system for ambient air quality on the road shall be structured to quickly respond in the event of any deterioration in air quality, such as a dust nuisance in the region.	[Construction] Contractor [Operation] FRA	[Construction] FRA [Operation] FRA
	2	Water pollution	[Turbid water and other items] - Discharge turbid water through sedimentation pond and silt fence - Install a portable toilet for workers - Appropriate management of waste and construction machines - Explain and respond appropriately to the community and fishermen residing along the river, if necessary.	Not required	[Construction] Contractor	[Construction] FRA
	3	Soil pollution	- Appropriate waste and facility management in the construction yard and working camp. - Preparation of a treatment method in the case of some soil pollution.	Not required	[Construction] Contractor	[Construction] FRA
	4	Waste	[Construction waste] - Waste shall not be dumped into the river and a temporary dump area shall be prepared. - After considering its potential for reuse, construction waste, including concrete debris, shall be disposed of at the designated disposal site. - Hazardous waste material shall be stored properly pending final treatment. [Garbage from base camp] - Garbage at workers' camp and waste oil shall be brought to a disposal site or treatment facility. [Night soil] - A temporary sanitation facility such as septic tank shall be introduced to the workers' camp.	Not required	[Construction] Contractor	[Construction] FRA
	5	Noise and vibrations	[Construction noise and vibrations] - Install a noise barrier; select low-noise equipment if necessary. -Avoid works involving heavy equipment at night. -Inform the surrounding communities of the construction schedule.	- The vehicle travel speed shall be controlled	[Construction] Contractor [Operation] Local Police	[Construction] FRA [Operation] Local Police
	7	Odors	[Garbage from base camp] - Garbage at the workers' camp shall be collected by the local authority [Night soil] - A temporary sanitation facility, such as a septic tank, shall be introduced to the workers' camp. [Other] - Proper maintenance and control of odorous	Not required	[Construction] Contractor	[Construction] FRA

Category	#	Impacted Item on JICA GL	Major Mitigation Measures		Responsibility	
			Pre and During Construction phase	Operation phase	Implementation Agency	Responsible Agency
			construction materials in the construction yard.			
	8	Sediments from riverbeds	- Applying a specific construction method to minimize disturbance of riverbed sedimentation.	Not required	[Construction] Contractor	[Construction] FRA
Natural Environment	10	Ecosystem	- The construction development area shall be roped or fenced off and remain undisturbed. - Planting of mangroves shall be carried out for cutting mangrove. Replanting of ten seedlings per one cutting mature mangrove is introduced. The area for replanting is designated following discussion with the relevant authorities.	Not required	[Construction] Contractor (bordering), FRA (replanting)/other supporting organization	[Construction] FRA
	11	Hydrology	- Avoid applying materials that may block the river flow and prepare an engineering analysis for the river flow movement based on the actual construction method if needed. - Periodically monitor the movement of water flow.	Not required	[Construction] Contractor	[Construction] FRA
	12	Topography of terrain, geology of soils	-Applying road embankment protection technology such as ground cover plants to protect against soil erosion. - Confirm the condition of erosion control at the planned quarry site.	- Establish a surveillance system for embankment erosion and reinforce the maintenance procedure for road embankments	[Construction] Contractor [Operation] FRA	[Construction] FRA [Operation] FRA
Social Environment	13	Resettlement and land acquisition	- Hold a consultation meeting to convey compensation policy. - Appropriate compensation and social assistance in accordance with the RAP.	- Evaluating the implementation of resettlement activities, particularly for livelihood restoration in accordance with the RAP	[Planning Phase] FRA [Operation] FRA	[Planning Phase] FRA [Operation] FRA
	14	Poverty	- Applying economic assistance as reconstruction of livelihood for PAPs under the poverty line and PAHs including the socially vulnerable.	Not required	[Planning Phase] FRA	[Planning Phase] FRA
	17	Land use and utilization of local resources	- Hold an inter-ministerial meeting for land-use modification issues. - Apply measures to mitigate water pollution. - Obtain permission for fishery rights before commencing construction. - Information circulation for the cautious works near the cemetery border.	Not required	[Planning Phase] FRA (land use) [Construction] Contractor (water pollution and permission)	[Planning Phase] FRA (land use) [Construction] FRA
	18	Water usage	- Apply measures to mitigate water pollution.	Not required	[Construction] Contractor	[Construction] FRA
	19	Existing social infrastructures and services	- Hold a stakeholder meeting with the authorities with relevant service lines - Hold a stakeholder meeting with the relevant authorities as well as residents to discuss the relocation of bus stops near the bridge for public consent. - Construct diverted roads for vehicles and pedestrians appropriately to ensure accessibility.	Not required	[Planning Phase] FRA (service line and bus stops) [Construction] Contractor (accessibility)	[Planning Phase] FRA (service line and bus stops) [Construction] FRA
	27	Infectious diseases such as dengue and HIV/AIDS	- Install sufficient drainage facilities to discourage breeding of vector mosquitos -Reinforce medical screening and periodic medical check-ups -Promote awareness of infectious diseases such as HIV/AIDS among laborers to prevent such diseases spreading.	Not required	[Construction] Contractor	[Construction] FRA
	28	Working conditions (including work	- Periodical guidance and supervision of safety during construction works shall be ensured. - Proper occupational safety management and	Not required	[Construction] Contractor	[Construction] FRA

Category	#	Impacted Item on JICA GL	Major Mitigation Measures		Responsibility	
			Pre and During Construction phase	Operation phase	Implementation Agency	Responsible Agency
		safety)	records of the same are recommended.			
Others	29	Accidents	<ul style="list-style-type: none"> - Deploy flagmen at the gate and crossing points of the construction vehicles. - Install safety signboards. - Install fences around the construction site to keep out local people such as children. - Install lighting for overnight traffic control near the construction area. - Install adequate parking areas for idling construction machines. - Restrict mobilization speed in the construction site. - Safety training for workers. - Safety patrol at the construction site by supervisors. 	Not required	[Construction] Contractor	[Construction] FRA

Source: Preparatory Survey Report on The Project for Reconstruction of Tamavua-I-Wai Bridge in the Republic of Fiji (March 2020)

(2) Environmental Monitoring Plan

1) Construction Phase

Summary of Monitoring Activity during the Construction Phase

Category	No	Items	Parameter	Method	Location	Frequency per year	Cost (USD)/ Construction period (3.17years)	Implementation Agency	Standard	
Pollution Control	1	Air pollution	SO ₂ , NO ₂ , PM ₁₀	Same method as the baseline survey	1 site (adjacent to the construction site)	Twice	5,200	Contractor	SO ₂ : <350µg/m ³ (1hr.) NO ₂ : 200µg/m ³ (1hr.) PM ₁₀ : 0.05mg/m ³ (24hrs)	
	2	Water pollution	pH, BOD, COD, SS, Coliform	Same method as the baseline survey	1 site (Tamavua river near the construction site)	Twice	5,200	Contractor	pH 7.0 - 9.0 BOD <40 mg/l COD <125 mg/l SS <60 mg/l COL <400 (MPN)/100ml	
	3	Waste	Volume of waste soil, cutting tree and domestic garbage. Waste from demolition works	Record volume of generated waste Record of disposal method	Construction yard and camp site	Monthly	2,900	Contractor	Generated waste shall be disposed of at a designated site. The method shall be followed by the final EMP	
	4	Soil pollution	Surveillance of polluted soil	Ocular inspection	Construction yard and camp site	Monthly	Counted in 'Waste'	Contractor	Soil polluted by oil or another chemical can be found	
	5	Noise	Ambient and roadside noise (LAeq (dB (A)))	Same method as the baseline survey	2 sites (adjacent to the construction site)	Twice	2,000	Contractor	Daytime: 60 dB (A) Nighttime: 50 dB (A)	
			Vibration	Vibration (dB L10)	Same method as the baseline survey	2 sites (adjacent to the construction site)	Twice	2,000	Contractor	75 dB
		7	Odors	Condition of garbage and septic tank maintenance	Record of odor condition	Construction yard and base camp	Monthly	Counted in 'Waste'	Contractor	No perception of annoyance. It can be estimated in the item 'Waste'.
Natural Env.	10	Ecosystem	Status of cutting and replanting mangrove area	Ocular inspection	Mangrove field	6 times	3,900	FRA	Can be reported to the MOF or local authority	
	12	Topography of terrain, geology of soils	Status of road embankment	Ocular inspection	Constructed road embankment	Monthly	-	FRA	Can be counted for regular supervision activity	

Category	No	Items	Parameter	Method	Location	Frequency per year	Cost (USD)/ Construction period (3.17years)	Implementation Agency	Standard
Social Environment	13	Involuntary resettlement	Economic status of relocated PAHs and records of complain	Interview with PAPs about their economic condition after relocation	Displaced PAHs	Twice	700	FRA	Shall be completed during the construction stage
	14	The poor							
	16	Local economy such as employment							
	17	Land use and utilization of local resources	Condition of fishing ground (Tamavua river)	Interview with fisherman	Tamavua river near the construction site	6 times	2,000	FRA	
	18	Water usage	pH, Coliform	Same method as the baseline survey	Same locations as the baseline survey	4 times	-	Contractor	Can be inclusively estimated in the item 'water quality'
	19	Existing social infrastructure and services	Status of accessibility and construction of access road	Ocular inspection Interview with residents and companies along the Tamavua-i-wai Road	All the access roads	Monthly	-	FRA	Can be counted as regular supervision activity
	27	Infectious diseases such as HIV/AIDS	Number of infected patients	Periodical health check list	All construction workers	Monthly	-	FRA	Monitoring shall be done based on management record Can be counted for regular supervision activity
28	Labor environment (including work safety)	Record of work environment Implementation record of safety instruction	Recording working condition	Construction site, yard and worker's base camp	Monthly	-	FRA	No complaints shall be generated from workers No accident shall occur as a result of the works Can be counted for regular supervision activity	
Others	29	Accident	Number of accidents	Recording accidents related to construction activity	Construction site, yard and worker's base camp	Monthly	Can be counted for regular supervision activity	FRA	Monitoring will be done based on the management records Can be counted for regular supervision activity
TOTAL							23,900		FRA: 6,600 Contractor: 17,300

Source: Preparatory Survey Report on The Project for Reconstruction of Tamavua-I-Wai Bridge in the Republic of Fiji (March 2020)

2) Operational Phase

Summary of Monitoring Activity during the Operation Phase

Category	No	Items	Parameter	Method	Location	Frequency per year	Cost (USD)/ Construction period (2.0 years)	Implementation Agency	Standard
Pollution	1	Air pollution	SO ₂ , NO ₂ , PM ₁₀	Same method as the baseline survey	1 site (adjacent to the construction site)	Twice	3,300	FRA	SO ₂ : <350µg/m ³ (1hr.) NO ₂ : 200µg/m ³ (1hr.) PM ₁₀ : 0.05mg/m ³ (24hrs)

Category	No	Items	Parameter	Method	Location	Frequency per year	Cost (USD)/ Construction period (2.0 years)	Implementation Agency	Standard
	5	Noise	Ambient and roadside noise (dB (A))	Same method as the baseline survey	1 site (adjacent to the construction site)	Twice	3,300	FRA	Daytime: 60 dB (A) Nighttime: 50 dB (A)
Natural Environment	10	Ecosystem	Status of cutting and replanting mangrove area	Ocular inspection	Mangrove field	2 time	2,500	FRA	Can be reported to the MOF or local authority
	12	Topography of terrain, geology of soils	Status of road embankment	Ocular inspection	Constructed road embankment	Twice	-	FRA	Can be counted for regular maintenance activity
Others	29	Accident	Number of accidents	Recording accidents related to construction activity	Construction site, yard and worker's base camp	Monthly	-	FRA	Monitoring system has been established in FRA's internet site
TOTAL							9,100		

Source: Preparatory Survey Report on The Project for Reconstruction of Tamavua-I-Wai Bridge in the Republic of Fiji (March 2020)

Annex 8 Resettlement Action Plan (draft reference)

* referred from the preparatory survey report

A Quick Glance:

As the detailed explanation and Figure 1-3-62 [Location of the Affected Leased Land] are given on Page 46, acquisition of lease land shall be taken into consideration. Including other issues such as modification of land-use, these arrangement and coordination are to be carried out by FRA and Lands Department (LD) prior to the commencement of the new bridge construction.

1. Project Overview

1-3-10 Land Acquisition and Resettlement

(1) Need for Land Acquisition and Resettlement

Before constructing the new bridge on the existing bridge alignment under Japan's grant aid scheme (hereinafter referred to as the New Tamavua-i-wai Bridge,) construction of another new bridge on the downstream side carried out by the FRA (hereinafter referred to as the FRA Bridge) will be completed. Moreover, it has been confirmed that construction work of the FRA Bridge will be carried out without acquiring any private land and involuntary resettlement according to the EIA report for the FRA Bridge.

Since the existing bridge structures, including the superstructure, piers and foundation, are severely damaged, the superstructure of the existing bridge will be dismantled soon after completing the FRA Bridge construction and before commencing the New Tamavua-i-wai Bridge construction.

Utilization of existing bridge alignment will correspond to the issues of construction workability, time schedule and cost, traffic safety with familiar driving environment, as well as expectation of mangrove vegetation recovery.

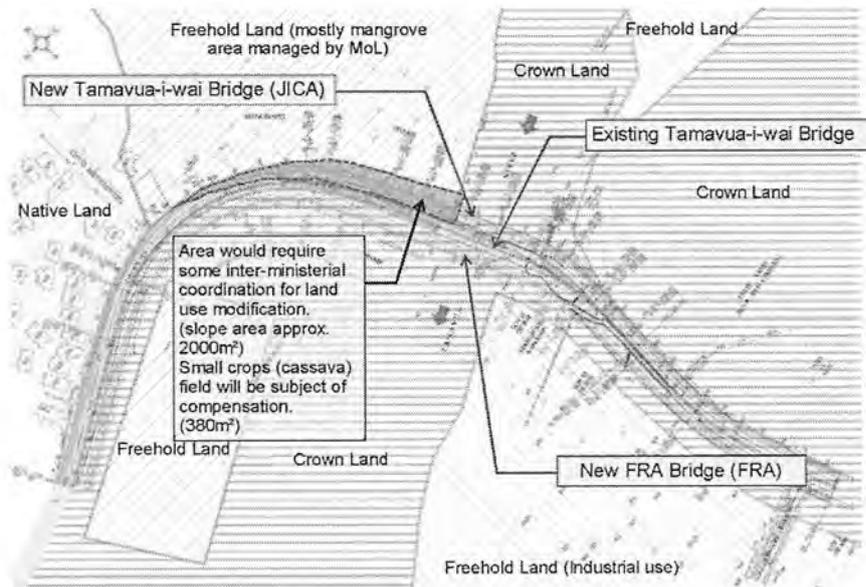
In terms of landownership related to the land acquisition for the Project, there is no private land in the area around the existing Tamavua-i-wai Bridge and the area is confirmed as Crown Land managed by the Fiji Government (Figure 1-3-58). Conversely, an area of privately leased land (2,264m²) was confirmed through the interview survey on Crown Land in the gap between the Tamavua-i-wai River and Tamavua-i-wai Drive near the existing bridge on the Suva side, part of which (55m²) will be required for land acquisition or termination of the lease agreement for construction and future bridge maintenance (Figure 1-3-59). Although a single title holder living in the leased land was identified for the subject leased land, the eligibility of the lease title will be verified by the MoL.

Additionally, there are illegal settlements within a range of about 450m along the river on the upstream side, known as Kaleli settlement and the left bank of the existing bridge.

Regarding the Right of Way (ROW) in Fiji, despite the lack of any definite legal statement concerning specific ROW, the following definition is included in the LAW of FIJI Cap 139 Town Planning:

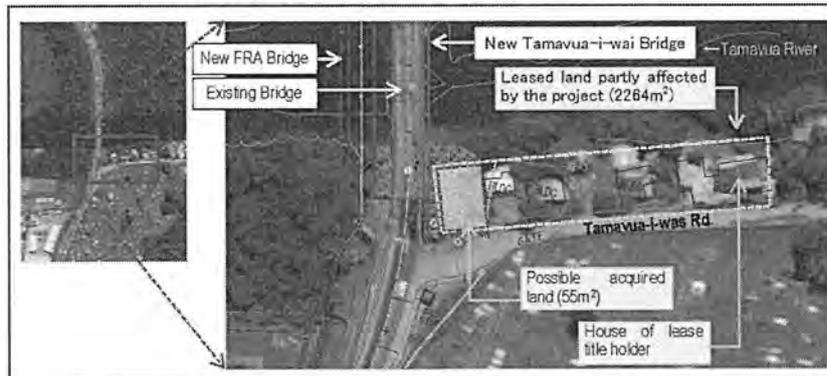
"street" includes any road, square, footway or passage, whether a thoroughfare or not, over which the public has a right of way and also the way over any public bridge and also includes any road, footway or passage, open court or open alley, used or intended to be used as a means of access to two or more houses whether the public has a right of way thereover or not and all channels, drains and ditches at the side of any street shall be deemed to be part of such street;

Based on the reference of land tenure overlapped on the new alignment of the New Tamavua-i-wai Bridge and approach road shown as in Figure 1-3-58, no land can be acquired from either a private sector or indigenous clan. However, regarding the issue of changing the boundary of Queens Road in the section near the new bridges, there would be a need to coordinate and discuss with authorized government institutions since the area of the new approach road on the Lami Town side (approximately 2,000m²) would need inter-ministerial coordination associated with land-use modification from Freehold Land to Crown Land as part of road property.



Source: JICA Study Team

Figure 1-3-58 Land Status around the Existing Tamavua-i-wai Bridge



Source: JICA Study Team

Figure 1-3-59 Area for Possible Land Acquisition

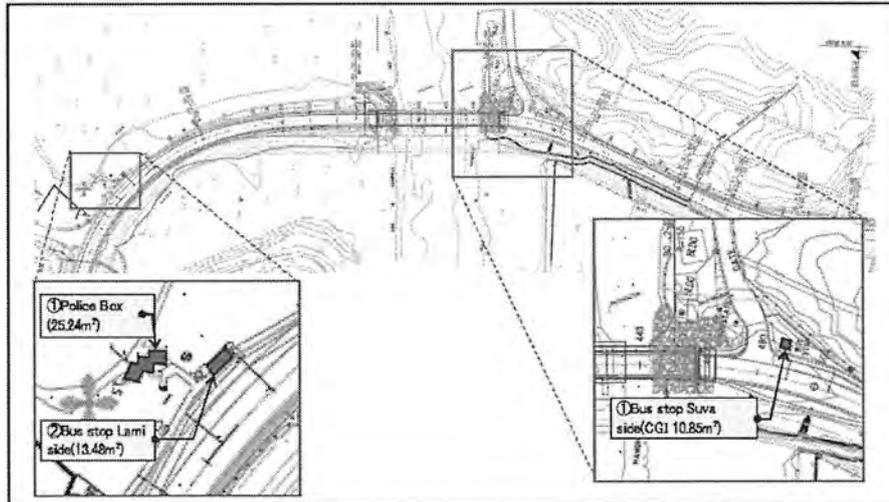
Regarding structures potentially affected by the construction works of the New Tamavua-i-wai Bridge, three (3) public structures, including two (2) bus stops on both Suva and Lami sides and one (1) police box on the Lami side are identified. On the other hand, there is no involuntary resettlement confirmed on this project.

Regarding other public structures, prior to commencing the construction works, the project proponent (FRA) must coordinate the relocation issue with competent agencies, Ministry of Commerce, Trade, Tourism and Transport (MCTTT) for the bus stops and Fiji Police Force (FPF) for the police box.

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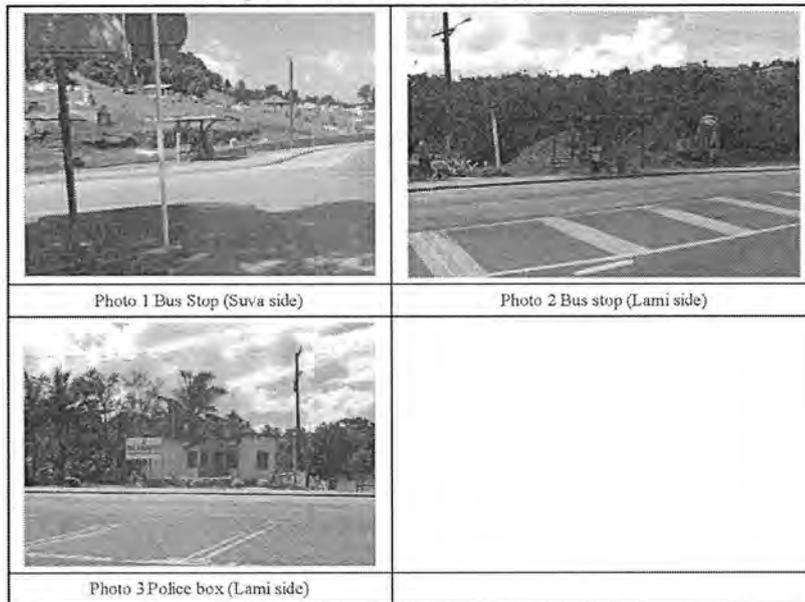
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The location of the affected structures and photos are shown on Figure 1-3-60 and Figure 1-3-61 respectively.



Source: JICA Study Team

Figure 1-3-60 Structures Potentially Affected



Source: JICA Study Team

Figure 1-3-61 Photos of Affected Structures

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(2) Legal Framework for Land Acquisition and Resettlement

a) Overview of the Law and Policy of Land Acquisition and Resettlement in Fiji

The laws and acts listed below comprise the legal framework for issues associated with land acquisition and involuntary resettlement in Fiji.

- The Constitution of Fiji
- The Itaukei Land Trust Act [Cap. 134], 1985 (originated from The Native Land Trust Board Act)
- The Land Transfer Act [Cap 139], 1978
- The Land Sales Act [Cap 137], 1978
- The Agricultural Landlord and Tenant Act, 1997 (supplemented by the Land-Use Decree No. 36 (2010))
- The State Acquisition of Land (amended) Act, 1998 (originated from The Crown Acquisition of Land Act, 1940)
- Town Planning Act [Cap 139], 1978
- Rivers and Streams Act [Cap 139], 1985
- Acquisition Guideline (prepared by the Valuation Division, November 2019)
(Other relevant policy applied for the previous development project by the FRA)
- The Land Acquisition and Resettlement Framework (updated 2017)

b) Land Classification

The land classification in Fiji is summarized as shown below.

i) Native Land

The Native Land, comprising approximately 83% of Fiji land, is mostly owned by a clan unit and maintained by the Native Land Trust Board (NLTB). Its position and policy are specified in the Itaukei Land Trust Act and trading thereof is basically prohibited to secure the landownership rights of Fiji's indigenous people. Development in the Native Land requires land lease agreements on some lease payments to the NLTB with a clan and development proponents. The payment will be returned to the owner such as the chief of a clan and delivered to clan members. The lease period varies and is defined between 30 and 99 years. No land trading is prohibited when the land is sold or handed over to the Fiji Government for public use.

ii) Freehold Land

Freehold Land, comprising approximately 10% of the land of Fiji, is the registered under the Torrens Title System of the Land Transfer Act and which was purchased by European colonists before the colonial period. It is known as modern land adapted to the current status of economic activities that can be sold and leased according to the Land Sales Act. In recent years, to avoid disorder, trading in the land is prohibited to foreigners holding residence permission.

iii) Crown Land

Crown Land, comprising approximately 7% of the land of Fiji, is land retained by the British Royal Family but without any definite attribution as of 1875. It is commonly known as 'State Land' since it is managed by the MoL as public land. Regarding the river area, the area below the high-water mark

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(HWM) is defined as Crown Land. Trading of Crown Land is prohibited, but it may be utilized under a lease agreement supervised by the MoL.

Table 1-3-51 Summary of Fiji Land Classification

Name	Landowner	Ownership Procedure
Native Land	Clan	Since trading in the land is not prohibited, the land must be leased according to the Itaukei Land Trust Act. Land acquisition and compensation issues for public use are specified in the Land Transfer Act.
Freehold Land	Temre Holder	The land can be traded according to the Land Sales Act and the trading rights are managed by the Torrens Title System.
Crown Land	Government	The land can be leased based on the State Acquisition of Land (amended) Act.

Source: JICA Study Team

c) JICA's Policy for Involuntary Resettlement

The key principles of JICA's policies on involuntary resettlement are summarized below.

Table 1-3-52 JICA's Policy for Involuntary Resettlement

#	Description
1	Involuntary resettlement and loss of means of livelihood are to be avoided when feasible by exploring all viable alternatives.
2	When population displacement is unavoidable, effective measures to minimize the impact and compensate for losses should be taken.
3	People who must be resettled involuntarily and people whose means of livelihood will be hindered or lost must be sufficiently compensated for and supported, so that they can improve or at least restore their living standards, income opportunities and production levels to pre-project levels.
4	Compensation must be based on the full replacement cost ²⁰ as much as possible.
5	Compensation and other forms of assistance must be provided prior to displacement.
6	For projects entailing large-scale involuntary resettlement, resettlement action plans must be prepared and made available to the public. It is desirable that the resettlement action plan include elements laid out in the World Bank Safeguard Policy, OP 4.12, Annex A.
7	In preparing a resettlement action plan, those affected and their communities must be consulted based on sufficient information made available to them in advance. When such consultation is held, explanations must be given in a form, manner and language understandable to those affected.
8	Appropriate participation of those affected must be promoted when planning, implementing and monitoring resettlement action plans.
9	Appropriate and accessible grievance mechanisms must be established for those affected and their communities.
The above principles are complemented by World Bank OP 4.12, since it is stated in JICA GL that "JICA confirms that projects do not deviate significantly from the World Bank's Safeguard Policies". One additional key principle based on World Bank OP 4.12 is as follows:	
10	The affected people are to be identified and recorded as early as possible to establish their eligibility through an initial baseline survey (including a population census that serves as an eligibility cut-off date, asset inventory and socioeconomic survey), preferably at the project identification stage, to prevent a subsequent influx of those encroaching others who wish to take advantage of such benefits.
11	Eligibility of Benefits includes PAPs with formal legal rights to land (including customary and traditional land rights recognized under law), PAPs without formal legal rights to land at the time of census eligible to claim such land or assets and PAPs without any recognizable legal right to the land they are occupying.
12	Preference should be given to land-based resettlement strategies for displaced persons with land-based livelihoods.
13	Support the transition period (between displacement and livelihood restoration.)

²⁰ Description of "replacement cost" is as follows.

Land	Structure	Description
Land	Agricultural Land	The pre-project or pre-displacement, whichever is higher, the market value of land of equal productive potential or use located in the vicinity of the affected land, plus the cost of preparing the land to levels on a par with those of the affected land, plus the cost of any registration and transfer taxes.
	Land in Urban Areas	The pre-displacement market value of land of equal size and use, with similar or improved public infrastructure facilities and services and located in the vicinity of the affected land, plus the cost of any registration and transfer taxes.
Structure	Houses and Other Structures	The market cost of the materials to build a replacement structure with equivalent or superior area and quality than those of the affected structure, or to repair a partially affected structure, plus the cost of transporting building materials to the construction site, plus the cost of any labor and contractors' fees and any registration and transfer taxes.

#	Description
14	Particular attention must be paid to the needs of the vulnerable groups among those displaced, especially those below the poverty line, landless, elderly, women and children and ethnic minorities etc.
15	For projects entailing land acquisition or involuntary resettlement of fewer than 200 people, abbreviated resettlement plan is to be prepared.
In addition to the above core principles on the JICA policy, it also emphasized a detailed resettlement policy including all the above points; a project-specific resettlement plan; institutional framework for implementation; monitoring and evaluation mechanism; time schedule for implementation; and, detailed Financial Plan etc.	

Source: Reporting instruction of environmental and social considerations for Category B (June 2011)

(3) Comparative Analysis between JICA's and Fiji's Policy

A comparison between the Government's laws/regulations and JICA GL is shown in Table 1-3-53. The overall policy for assistance package is considered based on measures to fill the gaps in the following table.

Table 1-3-53 Gap Analysis in Land Acquisition and Resettlement between Fiji's Laws²¹ and JICA GL

#	JICA guidelines	Laws in Fiji	Gap between Laws in Fiji and JICA GL	Measures to fill the gap
1	Involuntary resettlement and loss of means of livelihood are to be avoided when feasible by exploring all viable alternatives. (JICA GL)	Compulsory possession of land for public use is stated under the Constitution of Fiji and the State Acquisition of Land Act (SALA).	There is no definite gap about avoidance from resettlement and loss of means.	In compliance with LARF and JICA GL, ways must be studied to avoid or minimize land acquisition, involuntary resettlement as well as loss of livelihood during the design stage.
2	When population displacement is unavoidable, effective measures to minimize impact and to compensate for losses should be taken. (JICA GL)	Conversely, in the basic LARF policy, it is stated that involuntary resettlement and loss of means of livelihood have to be avoided or minimized.	The requirement for measures to be taken to restore livelihood, restructure the production level and help boost living standards is not defined under Fiji law.	This must be followed by JICA GL and measures to reconstruct livelihood for PAPs after relocation are implemented.
3	People who must be resettled involuntarily and people whose means of livelihood will be hindered or lost must be sufficiently compensated and supported, so that they can improve or at least restore their standard of living, income opportunities and production levels to pre-project levels. (JICA GL)	Additionally, as measures to be taken when avoidance is not possible, the need to compensate for acquired land and loss of assets is defined in the SALA.		
4	Compensation must be based on the full replacement cost as much as possible. (JICA GL)	In the basic LARF policy, it is stated that compensation has to be evaluated based on market price without taking depreciation into consideration. According to SALA, compensation for loss of assets except for land such as structure will be evaluated at book/depreciated value.	Although details of the compensation is not specified under the Fiji's law, similar description specified in LARF.	In compliance with LARF and JICA GL, any compensation is based on the market value of replacement cost without taking depreciation into consideration.
5	Compensation and other kinds of assistance must be provided prior to displacement. (JICA GL)	The date of compensation payment is defined within 30 days of public announcement in SALA.	It is not specified whether the compensation payment is carried out before physical relocation. Regarding the policy of the MoL, the procedure of compensation payment provides for 75% before construction and 25% after construction.	In compliance with JICA GL, compensation and other forms of assistance are basically provided prior to displacement as much as possible.
6	For projects entailing large-scale involuntary resettlement, resettlement action plans must be prepared and made available to the public. (JICA GL)	Need to prepare RAP report, information sharing to PAPs and public disclosure is defined as basic policy in LARF.	There is no legal requirement for an RAP report and public disclosure of the RAP. There is no definite gap between LARF and JICA GL.	In compliance with LARF and JICA GL, the RAP report is prepared and disclosed.

²¹ Including the relevant framework applied for the previous road development project carried out by the FRA

1. Project Overview

#	JICA guidelines	Laws in Fiji	Gap between Laws in Fiji and JICA GL	Measures to fill the gap
7	In preparing a resettlement action plan, consultations must be held with those affected and their communities based on sufficient information made available to them in advance. (JICA GL)	During land acquisition and resettlement procedures, periodical announcements to the landowner are required. The requirement to provide information to the PAPs and disclose the RAP report to the public is defined in the basic LARF policy.	There is no legal requirement for an RAP report and public disclosure of the RAP. There is no definite gap between LARF and JICA GL.	In compliance with JICA GL, the RAP report is public disclosed and prepared through public consultation with PAPs and the community.
8	When consultations are held, explanations must be given in a form, manner and language understandable to those affected. (JICA GL)	The requirement to consult affected landowners at each phase of RAP preparation activity is stated in SALA.	There is no legal requirement for explanations to be given in a form, manner and language understandable to the PAPs.	Followed by JICA GL, explanations are provided in a form, manner and language understandable to the PAPs.
9	Appropriate participation of affected people must be promoted in planning, implementing and monitoring resettlement action plans. (JICA GL)	The requirement to consult affected landowners at each phase of RAP preparation activity is stated in SALA.	Participation of RAP preparation is limited to landowners and not clarified to all the affected persons and community.	Followed by JICA GL, participation of all the affected persons and community is assured during RAP preparation.
10	Appropriate and accessible grievance mechanisms must be established for those affected and their communities. (JICA GL)	Applying grievance by the PAPs is ensured in SALA. A grievance mechanism is clarified in LARF.	There is no detailed grievance mechanism in Fiji's law. There is no definite gap found between LARF and JICA GL.	A grievance mechanism is clarified for actual implementation in accordance with LARF and JICA GL.
11	Affected people are to be identified and recorded as early as possible to establish their eligibility through an initial baseline survey (including population census that serves as an eligibility cut-off date, asset inventory and socioeconomic survey), preferably at the project identification stage, to prevent a subsequent influx of encroachers of others who wish to take advance of such benefits. (WB OP4.12 Para.6)	The requirement for an inventory survey for loss of assets is stated in the resettlement procedure in SALA. LARF defines that identification of entitlement and eligibility for compensation shall be examined through a baseline survey on the initial stage.	There is no legal requirement of detailed baseline survey in Fiji, setting out cut-off-date as well as measures to avoid influx of illegal settlements after displacement. There is no definite gap found between LARF and JICA GL.	In compliance with LARF and JICA GL, a baseline survey, including a socioeconomic survey for the PAPs, is carried out in the initial stage of RAP preparation. Set out the cut-off-date as the starting date of the baseline survey for the PAPs in the initial stage and plan and implement measures against the influx of illegal settlements.
12	Eligibility of benefits includes, the PAPs who have formal legal rights to land (including customary and traditional land rights recognized under law), the PAPs who don't have formal legal rights to land at the time of census but have a claim to such land or assets and the PAPs who have no recognizable legal right to the land they are occupying. (WB OP4.12 Para.15)	Protective measures for indigenous persons and persons with no legal possession of land are provided under customary law in Fiji. Implementation of compensation for loss of assets and livelihood reconstruction for squatters is defined in the basic LARF policy.	There is no legal statement defining the right of receiving compensation for the person who has no legal possession of land. There is no definite gap found between LARF and JICA GL.	In compliance with LARF and JICA GL, compensation for loss of assets and assistance of livelihood reconstruction for the person who has no legal possession are provided.
13	Preference should be given to land-based resettlement strategies for displaced persons whose livelihoods are land-based. (WB OP4.12 Para.11)	There is no legal statement about land-based resettlement. In the basic LARF policy, it is stated that land-based resettlement can be provided under coordination with the relevant agency.	There is no legal statement about land-based resettlement. There is no definite gap found between LARF and JICA GL.	Followed by JICA GL, a compensation scheme will be decided through discussion with the PAPs considering their preference.
14	Provide support for the transition period (between displacement and livelihood restoration). (WB OP4.12 Para. 6)	No legal statement about provision of support for the transition period is found in the laws in Fiji. In the basic LARF policy, the need for support to cover the cost during the transition period is clarified.	There is no legal statement about support for the transition period. There is no definite gap found between LARF and JICA GL.	In compliance with LARF and JICA GL, support to cover the transitional cost required for the displacement is provided.
15	Particular attention must be paid to the needs of the vulnerable groups among those displaced, especially those below the poverty line, landless,	There is no legal statement about consideration of social vulnerability in Fiji.	There is no legal statement about consideration of social vulnerability in Fiji. There is no definite gap found between LARF and JICA GL.	In compliance with LARF and JICA GL, mitigation measures such as a livelihood restoration

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#	JICA guidelines	Laws in Fiji	Gap between Laws in Fiji and JICA GL	Measures to fill the gap
	elderly, women and children, ethnic minorities etc. (WB OP4.12 Para. 8)	In the LARF policy, particular consideration of social vulnerability is required.		program for the socially vulnerable are provided.
16	For projects entailing land acquisition or involuntary resettlement of fewer than 200 people, an abbreviated resettlement plan is to be prepared. (WB OP4.12 Para. 25)	No legal requirement to prepare an Abbreviated Resettlement Action Plan exists in Fiji. Preparation of an RAP report is required in the LARF policy, regardless of the resettlement volume.	There is no law defining the requirement of Abbreviated Resettlement Action Plan in Fiji. There is no definite gap found between LARF and JICA GL.	An Abbreviated Resettlement Action Plan will be prepared based on the JICA GL when the volume of PAPs is under 200.

Source: JICA Study Team

(4) Scale and Scope of Land Acquisition and Resettlement

a) Basic Policy for the Project

Regarding land acquisition, when land use has to be modified due to alignment change of the new approach road, the land between the current and new boundary line is acquired based on a land ownership map which clarifies each of the classifications: Native Land, Freehold Land and Crown Land. Location of the borders is followed by inventory data managed by the Lands Department and a new boundary defined at the edge of the designated road facility.

Regarding involuntary resettlement, all the residential structures located on planned road alignment as well as those which would prove hindrances during the construction works will be categorized as affected structures. During this determination, the intensity of disruption will be taken into consideration for partly affected structures through public consultation with the Project-Affected Persons (PAPs).

The cut-off date, which is related to entitlement of compensation for land acquisition and resettlement, is established based on the start date of the socioeconomic survey dated 15 June, 2019. Since providing any entitlement to compensate for the assets in the projected site after the cut-off date is prohibited, work to install a signboard and disclose information about the project and monitoring/surveillance activity at the projected site will be appropriately carried out by the FRA as countermeasures to avoid problems associated with involuntary resettlement, including the influx of new settlements and structures.

Furthermore, the scope of land acquisition and involuntary resettlement will be updated based on the detailed design and additional consultations to the PAPs will be required if the scale of impacts changes to reflect comments on the updated resettlement action plan.

b) Scale of Involuntary Resettlement and Affected Structures

As shown in Figure 1-3-60 and Figure 1-3-61, there is no involuntary resettlement identified for constructing the New Tamavua-i-wai Bridge and approach road. Conversely, there are three (3) public structures found to be relocated on both sides of the existing bridge. On the Lami Town side, one (1) bus stop is located on the new approach road alignment and one (1) police box would hinder construction operations, while one (1) bus stop is also located on the new approach road on the Suva City side. To proceed to relocate these public structures, some coordination between FRA and the relevant authorities such as police or MCTTT is required. Table 1-3-54 summarizes the scale of impact for resettlement with/without involuntary relocation.

c) Scale of Land Acquisition

As shown in Figure 1-3-58, there is no privately owned land on the new alignment of bridge and approach road for the New Tamavua-i-wai Bridge construction project. However, a leased land exists in the Crown Land near the existing bridge. This leased land is solely used for boat-building purposes and part of this land (55m²) will be the subject of land acquisition or termination of the lease agreement. Additionally, part of the land (2,000m²) on the new alignment on the Lami Town side is overlapped on Freehold Land which is controlled by the MoL, thus, the use of the land would need to be modified on completion of the project from Freehold Land to Crown Land as road property. Table 1-3-54 summarizes the impact of land acquisition for the project.

d) Scale of Affected Crop

An area of cultivated land covering approximately 380m² at the bridge end was found on the Lami side. As shown in Figure 1-3-58, since the land is categorized as Freehold Land managed by the Lands Department, the farmer cultivating crops is illegally engaged in agricultural activity. Major crops include cassava and yam. According to the consultation individually carried out for the farmer, he knows that agricultural activity on the land is not legal and harvests cassava and yam for his family consumption. The farmer also mentioned that it is difficult to record harvests periodically since he only harvests on an as-required basis. The family consumes 1.5 heaps of cassava per week and one bundle of yam potatoes per week from that farm and this consumption volume is used as the basis to evaluate crop compensation.

e) Summary of the Impact Scale

Table 1-3-54 summarizes the impact of constructing the New Tamavua-i-wai Bridge on affected land, structures and crops.

Table 1-3-54 Summary of Impacts

Impact Category	Impact Magnitude	Remarks
Affected persons requiring involuntary resettlement		
Residence to be displaced	0 PAPs	
Affected persons without resettlement		
Lease title holder	1 PAPs	Land for houseboat purpose
Crop owner	1 PAPs	Cultivates a cassava and yam field
Affected assets		
(Private structures)		
Not required	-	
(Public structures)		
Police box	1 (25.24m ²)	Controlled by the Fiji Police Force
Bus stop	2 (13.48m ² , 10.85m ²)	Controlled by the MoLT
(Leased government land)		
Land requires lease title modification	55 m ²	Part of the land of total leased land (2,264m ²)
(Land for public use)		
Land requires land-use modification	2,000 m ²	Land to be modified from Freehold Land to the Crown Land as road property
(Cultivated land)		
Land with crops	380 m ²	The land is categorized as Freehold Land managed by the MoL; thus no compensation will be provided.

Source: JICA Study Team

(5) Socioeconomic Survey of PAPs

There is no PAPs categorized as involuntary resettlement on this project.

(6) Measures for Compensation and Assistance

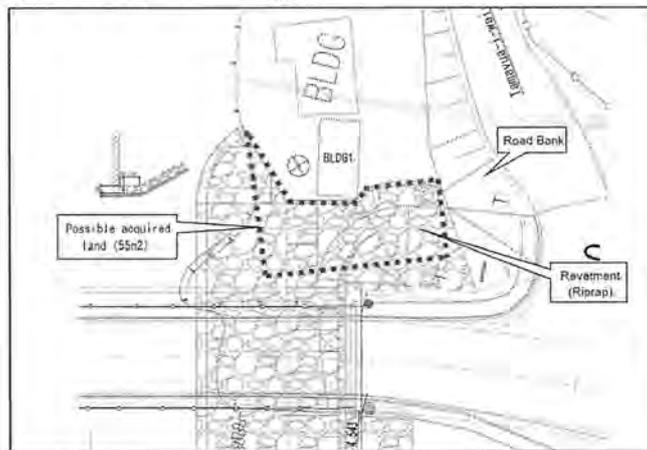
a) Compensation for Loss of Assets

i) Loss of Land or Land-Use Rights

Since there is no land owned by the private sector in accordance with the land tenure map organized by the Lands Department and the settlement area overlapping with the new bridge and road alignment is categorized as Crown Land, no compensation for loss of land will be provided to unauthorized occupants along the river bank adjacent to the project area. Conversely, there is a leased land (approx. 55m²), which will be affected by the construction of new road embankment and river revetment associated with the new bridge construction (the following figure shows the location of the affected leased land), and before commencement of the construction operation the lease agreement will have to be terminated with fair compensation to the title holder. More accurate area shall be determined at detailed design stage.

One of the conditions of the lease title prescribes that the leased land shall be solely used for boat-building purposes and one third of the leased land will be utilized for this purpose by the title holder living in the leased land, while the remaining area, which will be affected by the project, is occupied by illegal settlers. In this regard, part of the leased land will be subject to the loss of land-use rights, such as modification or termination of the lease agreement, which shall be mitigated by compensation.

As well as compensating for loss of land lease rights, there would be only inter-ministerial coordination left to take a particular administrative protocol for land-use modification from Freehold Land to Crown Land as road property, since some land on the Lami Town side currently controlled by the MoL overlaps the new alignment of the approach road.



Source: JICA Study Team

Figure 1-3-62 Location of the Affected Leased Land

ii) Loss of Structures

There is no privately owned structure affected by this project.

iii) Loss of Crops/Other

Regardless of legal and unauthorized land users, representatives of farmland users will have the right to receive cash compensation for lost consumption for three months at the wholesale price for crops before harvest on the affected farmland. In the case of animal husbandry, no loss of livestock is applicable since livestock is not immovable.

b) Entitlement Matrix

The Entitlement Matrix below shows the following fields: i) type of loss, ii) eligible persons, iii) entitlement, iv) implementation issues and v) implementation institution, in accordance with the nature of loss to restore the economic and social livelihood of the PAPs.

Table 1-3-55 Entitlement Matrix of Land Acquisition and Resettlement (Draft)

Type of Loss	Eligible Persons	Entitlement	Implementation Issues	Implementation Institution
A. Loss of Land				
Loss of Land/Loss of Land-Use Right	Legal landowner of residential, agricultural or commercial land (Private Freehold Land and Native Land)	<ul style="list-style-type: none"> Cash compensation equivalent to the full replacement cost to purchase new land in a similar condition to lost land is provided. Land-to-land compensation in similar condition will be provided on request. 	<ul style="list-style-type: none"> In the case of land-to-land compensation, infrastructure such as power, gas, water, access road etc. shall be facilitated before actual relocation. 	(Evaluation) DL (Payment) FRA (Alternative land) DL
	Illegal land occupants for residential, agricultural or commercial use	<ul style="list-style-type: none"> No compensation for loss of land is provided to illegal occupants. Provision of a formal settlement with a new lease agreement can be carried out depending on PAPs' preference. 	<ul style="list-style-type: none"> Assistance to restore their livelihood will be provided to illegal occupants. In the case of formal settlement compensation, infrastructure such as power, gas, water, access road etc. shall be facilitated before the actual relocation. In the case of formal settlement compensation, location will be limited depending on availability. 	(Alternative land) DL
Loss of Land-Use Right	Land lessee of residential, agricultural or commercial land (Lease holder)	<ul style="list-style-type: none"> Cash compensation at the replacement cost of leased land or provision of new lease for alternative land at no cost to PAPs for relinquishing the original lease and processing an alternative. 	<ul style="list-style-type: none"> The eligibility of the certificate holder is determined by the competent authority. 	(Evaluation) DL (Payment) FRA (Preparation of compensation money) FRA
B. Loss of Structure				
Loss of structures including residential houses, commercial office or structures attached to original building such as retaining walls	Owner of structures in ROW	<ul style="list-style-type: none"> Cash compensation equivalent to the full replacement cost to purchase new structures is applied. Reconstruction of lost structures in similar condition will be provided on request. 	<ul style="list-style-type: none"> Depreciation or price deduction against remaining materials cannot be considered when deciding on compensation for structures. Shifting allowance for relocating household or business goods.²² No compensation will be provided when a formal settlement with a new house is received. 	(Evaluation) DL (Payment) FRA (Alternative housing) DL (Removal and reconstruction of structure) FRA

²² The shifting/relocation allowance will be agreed between the FRA and the household of PAPs on a case-by case basis. The shifting allowance will be adequate to cover (i) dismantling of the structure; (ii) transport of structure/housing materials salvaged and all household effects/commercial goods; and (iii) costs of alternative accommodation, if required, while the structure is being rebuilt.

1. Project Overview

Type of Loss	Eligible Persons	Entitlement	Implementation Issues	Implementation Institution
Loss of community structures	Community representatives	· Replacement as agreed with community or cash compensation replacement cost without deductions for any materials salvaged.	· Details of compensation shall be determined through discussion with community representatives.	(Evaluation Reconstruction) FRA
C. Other Loss (Crops, Trees Etc.)				
Loss of crops	Owner (s) of crops or trees irrespective of legal status	· Cash compensation based on a wholesale price in the regional market for agricultural products of single season before harvest on the affected agricultural land is applied.	· Compensation will be paid regardless of legal or illegal landowners and users. · The compensation cost will be determined by the Ministry of Agriculture for crops or productive plants/trees and the Ministry of Forestry for timber trees.	(Evaluation) MOA, MOF (Payment) FRA
D. Assistance for Restoration Livelihood				
Assistance for moving cost	Household heads of PAPs who need to move	· Cash assistance for estimated moving costs based on required moving expenses is applied.	· Cash assistance for single moving activity will be applied. · Estimation arrangement will be required at an early stage with PAPs since the assistance amount relies on the distance of the new relocation site.	(Evaluation Payment) FRA
Assistance for income loss associated with loss of land or land-use rights	Household head of PAPs who loses agricultural income	· Cash assistance equivalent to the price of yearly crop yields on the affected agricultural farm at wholesale prices will be provided.	· Compensation will be paid regardless of legal or illegal landowners and users. · Consultation support in finding a new destination for agricultural farms will be provided. · Livelihood restoration assistance will be implemented through income restoration/improvement programs, including vocational training if needed.	(Evaluation Payment) FRA
Assistance for the socially vulnerable	Household head of family with disabled persons	· Cash assistance equivalent to 3 months (20 working days) of minimum wage is applied.	· Assistance amount would be estimated from the minimum wage of Fiji in 2017. (2.68FJD/hr. x 7hrs x 20days x 3.6adults x 3months =4,052FJD)	(Evaluation Payment) FRA
	Woman household head or head of household in poverty	· Cash assistance equivalent to 3 months (20 working days) of minimum wage is applied. · Provision of consultation support from finding a new relocation destination is applied. · Implementation of income recovery and restoration program, including career training, will be carried out as livelihood restoration assistance.	· Assistance amount would be estimated from the minimum wage of Fiji in 2017. (2.68FJD/hr. x 7hrs x 20days x 3.6adults x 3months =4,052FJD) · A household in poverty can be defined as a household below the poverty line for average adult individual income. (55.12FJD/adult/wk.) ²³	(Evaluation Consultation, Payment) FRA

Source: JICA Study Team

²³ 2013-14 HOUSEHOLD INCOME AND EXPENDITURE SURVEY, Fiji Bureau of Statistics, Release No: 98, 2015

(7) Grievance Redress Mechanism (GRM)**a) General**

Regarding the GRM, the Land Acquisition and Resettlement Framework (LARF) can be referred since there is no policy specifying about the GRM in Fiji. According to the LARF for the Transport Infrastructure Investment Sector Project in Fiji, key functions of the GRM are defined as i) recording, categorizing and prioritizing the grievance, ii) settling the grievance in consultation with complainants and other stakeholders, iii) informing the aggrieved parties about the solutions and iv) forwarding any unsolved cases to a higher authority. Moreover, the GRM for the Project, FRA, will be the execution agency to take responsibility to deal with all issues related to land acquisition and involuntary resettlement.

The Project-Affected Persons (PAPs) have the right to access FRA for grievances concerning issues of land acquisition and resettlement to find solutions and ease their difficulties before/after relocation free of charge. Their grievances will be heard by the FRA's social impact manager/social safeguard specialist and the means of contact will be clarified in writing when an agreement on land acquisition or resettlement is concluded. All the relevant authorities such as the MoL and TLTB will be available to review the public complaint and advice on the FRA's performance of the GRM.

b) Procedure

The basic GRM procedure comprises six steps as follows in Table 1-3-56. For step 1, FRA's social impact manager duplicates the record of grievance and hands it over to the complainant after receiving the grievance and clarifying the GRM procedure to be taken for the complaint. Once agreement on the solution is reached between the complainant and FRA through consultation and discussion concerning the solution managed by the social impact manager, all the records of discussion and agreement with the complainant will be archived in a specifically formatted document and promptly reported to JICA.

Table 1-3-56 Grievance Redress Procedure

Stage	Process	Duration
1	The displaced person/village head or traditional chief takes the grievance to FRA's social impact manager.	Anytime
2	FRA's social impact manager reviews and finds a solution to the problem in consultation with the village head or traditional chief and relevant agencies.	2 weeks
3	FRA's social impact manager reports back the outcome to the village head/traditional chief/displaced person.	1 week
If issue unresolved or party dissatisfied with the outcome obtained by the FRA's social impact manager:		
4	The displaced person/village head or traditional chief takes the grievance to the FRA Chief Executive Officer.	Within two weeks of receipt of decision in step 3
5	The FRA Chief Executive Officer reviews and finds a solution, in coordination with relevant agencies (such as Lands Department).	4 weeks
6	The FRA Chief Executive Officer reports back the solution/decision to the displaced person/village head or traditional chief.	1 week
If unresolved or at any stage if the displaced person is dissatisfied:		
The displaced person/village head or chief can take the matter to the appropriate court.		As per the judicial system

Source: Land Acquisition and Resettlement Framework, Nov. 2017

(8) Institutional Framework for Implementation

For the Tamavua-i-wai Bridge Construction Project, the FRA will be responsible for overseeing and managing project execution, including compliance with project requirements and issues of land acquisition and involuntary resettlement in accordance with the Abbreviated Resettlement Action Plan (ARAP) report to be prepared by the FRA; based on both Fiji and JICA safeguard policies. Social Safeguard Personnel (SSP) in FRA will ensure that the procedures and processes established in the ARAP are followed for the project and shall oversee the required Detailed Measurement Survey (DMS) for the affected structures and socioeconomic status of the Project-Affected Persons (PAPs) to complete procedures for compensation and physical resettlement prior to commencing the construction. Moreover, the SSP will be responsible for evaluating lost assets and monetary assistance to reconstruct livelihood to PAPs in poor economic condition and the socially vulnerable in their families. The FRA will be able to outsource a Design and Supervision Consultant (DSC) to share the relevant works as well as reinforce SSP's management capacity for resettlement issues. The entire budget for outsourcing DSC and other recruits for additional SSP shall be prepared by the FRA.

No compensation for land acquisition will be needed for the project since no land need be acquired for road property from private sources. In case the project requires modification of land use from private to public during the detailed design stage, the Lands Department (LD) will be responsible for the following table.

Table I-3-57 Summary of institutional roles for ARAP implementation

Institution	Role	Remarks
FRA Social Safeguard Section	(Finalization of ARAP report) <ul style="list-style-type: none"> · Verify compliance with applicable laws and standards. · Verify the scope of impacts regarding land acquisition and involuntary resettlement through a site investigation based on the final detailed design. · Carry out DMS for the acquired land and structures as well as the socioeconomic status of PAPs. · Evaluate the unit cost of affected assets, including structures and crops. · Finalize the compensation and assistance cost estimates followed by compensation policy in RAP. · Coordinate consultation meetings for explanations to PAPs. · Study all the relevant activities for the grievance mechanism. · Discuss and coordinate with the relevant institutions or authorities regarding involuntary resettlement and land acquisition. · Prepare to disclose project outline, including resettlement issues. (Implementation of RAP) <ul style="list-style-type: none"> · Supervise the implementation of ARAP in collaboration with the DSC. · Negotiate with PAPs for the compensation cost of affected structures and crops as well as the assistance cost. · Prepare and finalize a document for the compensation agreement with PAPs. · Manage the grievance redress mechanism, including receiving and recording complaints from PAPs. · Report and request the total compensation amount to the MOF. · Coordinate and record receipts of payment for compensation and assistance. · Coordinate and supervise displacement activity by PAPs. · Control the area of the project site after displacement to avoid illegal settlement until commencing the construction. · Monitor the economic status of PAPs after displacement. 	A social safeguard specialist will be in charge. DSC can be outsourced for support.

1. Project Overview

Other Ministry (if necessary)		
Ministry of Land, Lands Department	<ul style="list-style-type: none"> Attending village consultation meetings regarding land acquisition. Carry out initial valuations for the affected land. Identify owners and leaseholders. Negotiate with landowners for land acquisition or modification/termination of lease agreements. Prepare Sale and Purchase Agreements and send them to the TLTB for Board endorsement if needed. Approve final land surveys on completion of the project and adjust land compensation as required. Prepare land transfer, lease surrender, or freehold dedication documents. Administrative works for registration of titles. 	Land acquisition of the leased land will be carried out under the MoL's policy
Ministry of Forestry	<ul style="list-style-type: none"> Attend village consultation meetings regarding affected trees. Carry out initial valuations for affected trees. 	
Ministry of Agriculture	<ul style="list-style-type: none"> Attend village consultation meetings regarding affected crops. Carry out initial valuations for affected crops. 	
Others (if necessary)		
TLTB	<ul style="list-style-type: none"> Negotiate land acquisitions on behalf of mataqali landowners. Sign agreements. Secure the consent of mataqali members prior to making such agreements. Request the TLTB Board to endorse and approve the Sales and Purchase Agreements and transfer document. 	
NGO	<ul style="list-style-type: none"> Review and advise for management of resettlement activity Consult PAPs when identifying any particularly vulnerable people 	Except for <i>mataqali</i> issue

Source: JICA Study Team

(9) Implementation Schedule

This ARAP will be updated based on a detailed design of the New Tamavua-i-wai Bridge construction project and will require a Detailed Measurement Survey in the area to be affected by the construction works. An indicative implementation schedule for land acquisition and resettlement activities to (i) update the ARAP; (ii) implement the ARAP; and (iii) monitor resettlement activities, comes as follows (to be updated with detailed and specific target dates during implementation):

Table 1-3-58 Preparation and Implementation Schedule of ARAP

#	Activities	Responsibility	Schedule
	Update of ARAP		
1	Confirm land requirements based on detailed engineering design of the bridges. Determine areas of land, which will fall outside the existing road reserve (ROW).	Consulting engineers, FRA	Month 1
2	Provide plans identifying areas to be acquired to LD and TLBT.	FRA	Month 1
3	Determine the type of affected land tenure (Itaukei, leased, or freehold)	LD and TLTB	Month 1
4	Determine numbers in mataqali group, landowners and users affected (APs) and identify any other vulnerable households not yet noted.	LD, TLTB and FRA	Month 2
5	Engage affected communities in consultation and agree on land acquisition.	LD, TLTB and FRA	Month 2; ongoing
6	Obtain written consent from PAPs, including each landowning unit, during consultation meeting.	LD, FRA	Month 3-4
7	Conduct a cadastral survey (Detailed Measurement Survey (DMS)) of the affected assets, determine socioeconomic status if needed and submission for land registration.	LD, FRA	Month 2
8	Conduct titles/leases search in the Government titles registration office for affected landownership.	LD, FRA	Month 2
9	Determine and mark areas for each land unit required.	LD, FRA	Month 2
10	Conduct an inventory of losses - land, trees, crops - and provide valuation for compensation.	FRA, Valuation Division LD & MAFF	Month 4-5
11	Negotiate compensation with landowners (mataqali) or holders of Native Leases or	FRA, LD and TLTB	Month 5

1. Project Overview

#	Activities	Responsibility	Schedule
	freehold landowners as well as owners of lost assets.		
12	FRA to submit the updated ARAP for JICA approval	FRA and JCIA	Month 6
	ARAP Implementation		
13	Prepare relevant agreement document for compensation, including Sale and Purchase Agreement endorsed by TLTB Board	FRA, LD and TLTB	Month 5
14	Pay compensation and allowances.	LD, FRA and TLTB	Month 6
15	LD to complete land transfers & registration.	LD	Month 7
16	FRA to submit the Land Acquisition Completion Report to JICA.	FRA	Month 7
17	Award of civil works contract, clearance of land and briefing of contractor on safeguards.	FRA	Month 8
18	Commencement of civil works (contingent on payment of compensation and allowances).	FRA	Month 9
19	Final survey plan on completion of work, payment of adjusted compensation as required.	FRA and LD	Month 15
	Monitoring Plan		
20	FRA starts PAP's socioeconomic monitoring.	FRA	Month 12
21	FRA submits a progress report to JICA on ARAP implementation.	FRA	Monthly
22	FRA conducts a post-project survey and final monitoring report.	FRA	Biannual for 2-year-period

Source: JICA Study Team based on the LARF

(10) Estimation Cost and Budget

An approximate estimation of compensation items for the construction project of the New Tamavua-i-wai Bridge is shown in Table 1-3-59. The compensation unit prices for land acquisition were estimated based on the market price referred to under the recent project conducted by the FRA with a similar case and all costs related to the land acquisition and resettlement, including compensation money, shall be prepared and shouldered by the FRA.

Table 1-3-59 Cost Estimation for Resettlement

Items	Quantity	Unit	Unit Price (FJD)	Total Amount (FJD)	Remarks
[Land acquisition (acquisition of lease right)]					
Lease Area	1	Blocks	50,000	50,000	
Sub total				50,000	
[Compensation for Structure]					
Not required	-	-	-	0	
Sub total	-	-	-	0	
[Compensation for Crops]					
Cassava	1	laps	194	194	
Yam	1	laps	323	323	
Sub total				517	
[Moving Cost Assistant]					
Not required	-	-	-	0	
Sub total	-	-	-	0	
[Livelihood Restoration Support]					
Not required	-	-	-	0	
Sub total	-	-	-	0	
Total				50,517	
[Other]					
Lease land for construction yard	24,000	m ²	10	240,000	Assume that the old Lami Waste Depot site will be used for the construction yard. (Existing construction yard for Fletcher). If not \$240,000 should be used.
Sub total				240,000	
Grand Total				290,517	FJD
				137,996	USD

Source: JICA Study Team

(11) Monitoring Plan

In relation to the compensation based on the Abbreviated Resettlement Action Plan (ARAP), the FRA will ensure evaluation of the compensation details is adequate during the ARAP implementation plan and revise it as needed. The compensation process will be also monitored to ensure it is performed appropriately.

Monitoring activities will be conducted to focus on the following:

- ✓ Whether compensation is given to PAPs appropriately with correct payment amounts.
- ✓ Whether there are any significant complaints because they determine insufficient paid compensation.
- ✓ Number of complaints collected and processed for compensation and other matters

Monitoring activities will be conducted based on information through interviews with the PAPs and the socioeconomic condition after relocation shall be taken into consideration.

Monitoring activities will be conducted by the FRA for approximately two years after completion of compensation payment and shall include recording living conditions data of PAPs. The monitoring activity will preferably be conducted on a quarterly basis.

(12) Public Consultation

Discussions with residents who would possibly be the PAPs categorized as involuntary resettlement near the Tamavua-iwai Bridge were held on 3 and 4 June, 2019. During the public consultation to the possible PAPs, these discussions are summarized as follows:

Table 1-3-60 Summary of Public Consultation

Status of Interviewee	Resident (informal settler)	
Date/Venue	June 4, 2019/Possible PAP's house	
(PAPs' comments)	<ul style="list-style-type: none"> ➢ This house was inherited by my wife's sister, who passed away about five years ago and we sometimes suffer from traffic noise and natural disasters. ➢ We know that we do not own this land and it is not comfortable to live or safe here. My sister has been living here for more than 20 years and moved from her own village without permission. ➢ Although we understand that new bridge construction will be of significant public benefit and agree with the project, we are concerned about our future settlement status. ➢ It is very difficult to be a formal settler without enough money, so we would be grateful if the government of Fiji could provide us with a formal settlement. 	
Status of Interviewee	Land lease title holder	
Date/Venue	June 4, 2019/Possible PAP's house	
(PAPs' comments)	<ul style="list-style-type: none"> ➢ The lease title was issued by the Lands Department and my chief was also involved at that time. ➢ I am currently using my house and concrete yard in front for boat-building purposes and three families started to reside there without permission because the area was not in use for the stated purpose. ➢ I agree with the new bridge construction project since the current bridge is in poor condition and would like to discuss the issue of affected leased land with the government of Fiji. 	
Status of Interviewee	Farmer (informal settler)	
Date/Venue	June 3, 2019/Possible PAP's house	
(PAPs' comments)	<ul style="list-style-type: none"> ➢ The types of harvest in the area along the Queen Road near the Tamavua-iwai Bridge are mainly yam and cassava. ➢ The yields are only used for our home consumption. ➢ Our family consumes 1.5 heaps of cassava per week and one bundle of yam potatoes per week from that farm. ➢ We know that we are cultivating the land illegally. ➢ I understand the importance of the project and I would say it is not very difficult to find another place to cultivate illegally if the area is used for the new bridge. 	

Source: JICA Study Team

* referred from the Preparatory Study Report

Template

(2) Monitoring Form for Planning Phase (Tentative)

Preparation of Resettlement Sites (where necessary)

No.	Explanation of the site (e.g. Area, no. of resettlement HH, etc.)	Status (Completed (date) / not complete)	Details (e.g. Site selection, identification of candidate sites, discussion with PAPs, development of site, etc.)	Expected Date of Completion
1				
2				

Public Consultation

No.	Date	Place	Attendants	Language	Contents of the consultation / main comments and answers

Finalizations of PAPs List

Criteria (based on the Entitlement Matrix)	No. of PAPs	Remarks
1. Loss of land		
2. Loss of land use rights		
3. Loss of structures		
4. Loss of social structures		
5. Loss of crops		
6. Eligibles for moving cost support		
7. Eligibles for social vulnerability support (PAHs having physical disability)		
8. Eligibles for social vulnerability support (PAHs under poverty line)		

Progress of Activities

Resettlement Activities	Planned Total	Unit	Progress in Quantity			Progress in %		Expected Date of Completion	Responsible Organisation
			During the Quarter	Till the Last Quarter	Up to the Quarter	Till the Last Quarter	Up to the Quarter		
Preparation of RAP									
Employment of Consultants		Man-month							
Implementation of Census Survey (including Socioeconomic Survey)		--							
Approval of RAP		--							
Progress of Compensation Payment									
1. Loss of land		No. of HHs							
2. Loss of land use rights		No. of HHs							
3. Loss of structures		No. of HHs							
4. Loss of social structures		No. of HHs							
5. Loss of crops		No. of HHs							
6. Eligibles for moving cost support		No. of HHs							
7. Eligibles for social vulnerability support (PAHs having physical disability)		No. of HHs							
8. Eligibles for social vulnerability support (PAHs under poverty line)		No. of HHs							
Progress of Land Acquisition (All Lots)									
Lot 1		ha							
Lot 2		ha							
Lot 3		ha							
Progress of Asset Replacement (All Lots)									
Lot 1		No. of HHs							
Lot 2		No. of HHs							
Lot 3		No. of HHs							
Progress of Relocation of People (All Lots)									
Lot 1		No. of HHs							
Lot 2		No. of HHs							
Lot 3		No. of HHs							

(3) Monitoring Form for Construction Phase (Tentative)

The latest results of the following monitoring items shall be submitted to the lenders as part of the Monthly Progress Report throughout the construction phase.

Construction Phase

1. Response/Actions to Comments and Guidance from Government Authorities and the Public

*Main response from the local residence, relevant business persons and government agency is expected.

Monitoring Item	Monitoring Results during Report Period
Number and contents of formal comments made by the public	
Number and contents of responses from Government agencies	

2. Pollution

- Air Quality (Ambient Air Quality)

Item	Unit	Measured Value (Mean)	Measured Value (Max)	Applied Standards	Measurement Point	Fiji's Standard	IFC's Standard	Frequency
SO ₂	µg/m ³ (24h)			<350µg/m ³ (1-hour of 9 hours average) <570µg/m ³ (anytime)	To be clarified by engineer	Same as applied value	<20µg/m ³ (24-hour), <500µg/m ³ (10 minute)	Biannual
NO ₂	µg /m ³ (1h)			<200µg/m ³ (1-hour of 9 hours average)	S/A	Same as applied value	<40µg/m ³ (1-year) <200µg/m ³ (1-hour)	Biannual
PM ₁₀	µg /m ³ (24h)			<0.05 mg/m ³ (24-hour)	S/A	Same as applied value	<0.02(1-year) <0.05(24-hour)	Biannual

- Water Quality

Item	Unit	Measured Value (Mean)	Measured Value (Max)	Applied Standards	Measurement Point	Fiji's Standard	IFC's Standard	Frequency
pH	-			7-9	To be clarified by engineer	7-9	6-9	Biannual
BOD	mg/l			<40	S/A	<40	<30	Biannual
COD	mg/l			<125	S/A	N/A	<125	Biannual
SS	mg/l			<60	S/A	<60	<50	Biannual
Coliform bacteria	MPN /100ml			<400	S/A	<400	<400	Biannual

- Noise

Item	Unit	Measured Value (Mean)	Measured Value (Max)	Applied Standards	Measurement Point	Fiji's Standard	IFC's Standard	Frequency
Noise Level Leq.	dB A			<60(day) <50(night) *Japan's standard	To be clarified by engineer	N/A	<70(day & night)	Biannual

- Vibration

Item	Unit	Measured Value (Mean)	Measured Value (Max)	Applied Standards	Measurement Point	Fiji's Standard	IFC's Standard	Frequency
Vibration Level Leq.	dB			75 *Japan's standard	To be clarified by engineer	N/A	N/A	Biannual

- Waste and Odour

Monitoring Item	Monitoring Results during Report Period	Measures to be Taken	Frequency
Inventory record of waste disposal (volume, methodology)		To be clarified by engineer	Monthly
Inventory record of odour nuisance		S/A	Monthly

- Soil Pollution *management of liquid wastes containing oil / chemical substances will be mainly addressed.

Monitoring Item	Monitoring Results during Report Period	Measures to be Taken	Frequency
Inventory record of waste disposal (volume, methodology) and surveillance by visual inspection			Monthly

3. Natural Environment

- Condition of cut and re-planted mangrove

Monitoring Item	Monitoring Results during Report Period	Measures to be Taken	Frequency
Condition of cut mangrove field			Once every two months
Condition of re-planted mangrove seedlings			Once every two months

- Condition of constructed road embankment

Monitoring Item	Monitoring Results during Report Period	Measures to be Taken	Frequency
Existence of erosion	Details of survey results, such as findings		Monthly

4. Social Environment

- Condition of fishing ground

Monitoring Item	Monitoring Results during Report Period	Measures to be Taken	Frequency
Volume of production	Details of survey results, such as findings		Once every two months

- Condition of accessibility

Monitoring Item	Monitoring Results during Report Period	Measures to be Taken	Frequency
Status of accessibility	Details of survey results, such as findings		Once every two months

- Infectious disease such as HIV/AIDS and other STDs

Monitoring Item	Monitoring Results during Report Period	Measures to be Taken	Frequency
Infectious diseases such as HIV/AIDS and other STDs (Incidences per 1000 inhabitants)			Monthly

- Labour environment

Monitoring Item	Monitoring Results during Report Period	Measures to be Taken	Frequency
Record of work environment Implementation record of safety instruction	Details of survey results, such as findings		Monthly

5. Other

- Traffic Accidents

Monitoring Item	Monitoring Results during Report Period	Measures to be Taken	Frequency
Inventory record of traffic accident	Details of survey results, such as findings		Monthly

(4) Monitoring Form for Operational Phase (Tentative)

The latest results of the following monitoring items shall be submitted to the lenders on a biannual basis for the first two years of operation:

Operation Phase

1. Response/Actions to Comments and Guidance from Government Authorities and the Public

Monitoring Item	Monitoring Results during the Report Period	Frequency
Number and contents of formal comments made by the public		Upon receipt of comments/complaints
Number and contents of responses from Government agencies		

2. Pollution

- Air Quality (Ambient Air Quality)

Item	Unit	Measured Value (Mean)	Measured Value (Max)	Applied Standards	Measurement Point	Fiji's Standard	IFC's Standard	Frequency
SO2	µg/m3 (24h)			<350µg/m3 (1-hour of 9 hours average) <570µg/m3 (mytime)	To be clarified by engineer	Same as applied value	<20µg/m3 (24-hour), <500µg/m3 (10 minute)	Biannual
NO2	µg /m3 (1h)			<200µg/m3 (1-hour of 9 hours average)	S/A	Same as applied value	<40µg/m3 (1-year) <200µg/m3 (1-hour)	Biannual
PM10	µg /m3 (24h)			<0.05 mg/m3 (24-hour)	S/A	Same as applied value	<0.02(1-year) <0.05(24-hour)	Biannual

- Noise

Item	Unit	Measured Value (Mean)	Measured Value (Max)	Applied Standards	Measurement Point	Fiji's Standard	IFC's Standard	Frequency
Noise Level Leq.	dB A			<60(day) <50(night) *Japan's standard	To be clarified by engineer	N/A	<70(day & night)	Biannual

- Vibration

Item	Unit	Measured Value (Mean)	Measured Value (Max)	Applied Standards	Measurement Point	Fiji's Standard	IFC's Standard	Frequency
Vibration Level Leq.	dB			75 *Japan's standard	To be clarified by engineer	N/A	N/A	Biannual

3. Other

- Traffic Accidents

Monitoring Item	Monitoring Results during the Report Period	Measures to be Taken	Frequency
Inventory record of traffic accident	Details of survey results, such as findings		Monthly

5. テクニカルノート

(1) 1 回目

Fiji

The Project for Reconstruction of Tamavua-i-wai Bridge

Technical Notes

FRA and JICA Preparatory Survey Team confirmed the following technical matters on the Project for Reconstruction of Tamavua-i-wai Bridge.

1. Bridge location

The location of the new bridge shall be approximately the same location of the current bridge.

The position of the Modular Bridge shall be the downstream side of the current bridge.

2. Longitudinal bridge plan

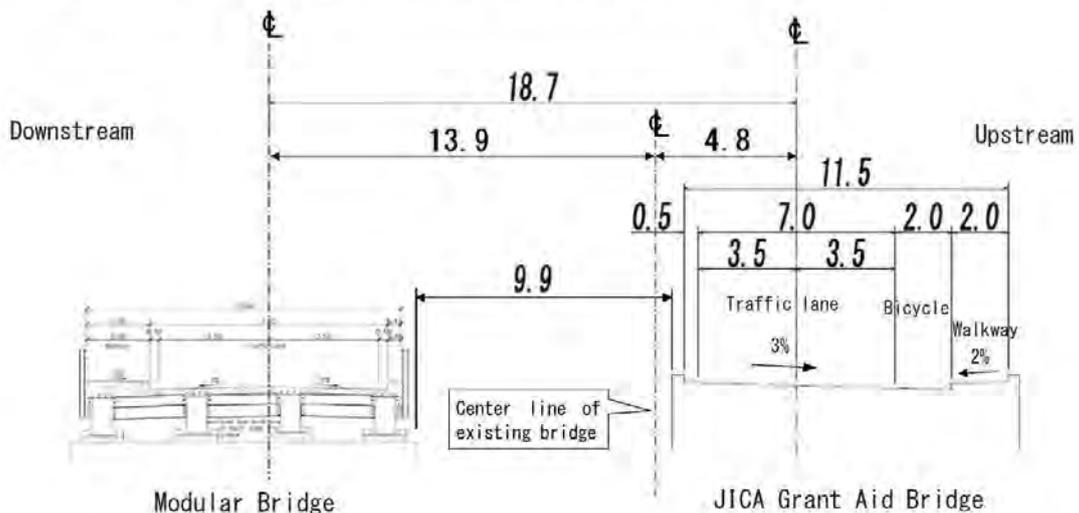
Regarding the longitudinal height of the bridge, the design water level (MSL + 5.2 m) shall be beneath the lowest girder height of the new bridge in consideration of 100-year tide level, 100-year waves and climate change with RCP 8.5 scenario.

Maximum Water Level (Datum line is MSL.)

Proposal	100-year tide level		100-year waves	Climate change with RCP8.5	Max. water level
	Tide level	Deviation	Wave height	Sea level rise	
Proposal 3	1.1	1.2	2.2	0.7	5.2

3. Width

The width of the new bridge shall be as shown in the figure below.



4. Bridge type

As a bridge type, PC 3 span interconnected post-tensioned slab girder bridge (L=3@30.0m=90.0m) is adopted.

5. Design speed

The design speed shall be 60 km / h in accordance with Austroads.

6. Horizontal Design Action Coefficient

Taking into account the Importance Level of the Bridge, the Hazard Factor, and the Return Period Factor, etc., the Horizontal Design Action Coefficient obtained by the Fiji and New Zealand Standard is 0.25.

7. Design live load

Since the bending moment of B type live load in Japanese Road Bridge Standard is larger than that of the live load (HN-HO-72) in New Zealand Bridge Manual, B type live load shall be adopted.

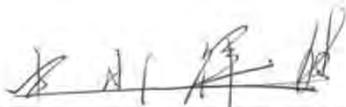
8. Relocation of utilities

All utilities (communication pipe, high voltage cable, water pipe) attached to the current bridge will be relocated to Modular Bridge by FRA before the construction of the new bridge will begin.

9. Design standards

In consideration of Japan's Grant Aid Project and Japan's technology transfer perspective and the affinity with procurement equipment and Japanese technology contractors, Japanese Standards are basically applied for design.

In addition, the Standards of Fiji, New Zealand, Australia, and AASHTO are complied.



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Suva, June 7, 2018



Jonathan Moore
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(2) 2 回目

Fiji
The Project for Reconstruction of Tamavua-i-wai Bridge
Technical Notes (2)

FRA and JICA Preparatory Survey Team confirmed the following technical matters on the Project for Reconstruction of Tamavua-i-wai Bridge.

1. Road plan

(1) Horizontal alignment

- 1) Japanese approach road on Suva side will be attached to the two inbound lanes of the existing four lanes in front of Fairstar Road.
- 2) The existing one inbound lane on Lami side will be transitioned to two lanes of Japanese approach road.
- 3) Two lanes on one side at the bridge section are ensured.
- 4) The horizontal alignment of FRA Bridge must be matched to the coordinates of main points and alignment elements provided by Japan side.

(2) Vertical alignment

- 1) FRA approves a difference of approximately 80 cm for the vertical height of both bridges.
- 2) Due to the difference in vertical height of both bridges, it will be prohibited for cars to enter into Tamavua-i-wai Road from the outbound lane of Suva side.

(3) Soft ground treatment

- 1) Paper drain (or sand drain) and pre-loading are considered as a subsidence measure.
- 2) Basal reinforcement or deep mixing method is considered as a stabilization measure.
- 3) The pre-loading and soft ground treatment on the Japanese approach roads to the Japanese Bridge will not impact on the FRA approach roads to the FRA Bridge. JICA will ensure that two lanes (one in each direction) will be maintained at all times on the FRA approach roads to the FRA Bridge during pre-loading and soft ground treatment.

2. Bridge plan

(1) Span and bridge type

- 1) The span length of Japan Bridge is as follows (each length is on the road centerline).
Bridge length $L=30.0\text{m}+30.0\text{m}+30.0\text{m}=90.0\text{m}$
- 2) The span length of FRA Bridge is as follows (each length is on the road centerline).
Bridge length $L=15.3\text{m}+15.3\text{m}+15.0\text{m}+15.0\text{m}+15.3\text{m}+15.3\text{m}=91.2\text{m}$
- 3) Both Japan Bridge and FRA Bridge are PC Bridges.

(2) Location of substructure

- 1) The piers of both bridges are set on the line of sight. The locations of pier P2 and pier P4 of FRA Bridge are as follows.

|

Pier	Station (m)	N coordinate (m)	E coordinate (m)	Skew angle	Azimuth angle
Pier P2	0+ 389.178536	3,876,597.616176	1,966,223.580509	89° 59' 32.3"	75° 47' 17.3"
Pier P4	0+ 419.136179	3,876,568.574083	1,966,230.930149	89° 56' 6.6"	75° 47' 17.3"

- 2) The abutments of both bridges are set on almost the same plane (on the same line).
- 3) The distance between the edges of the abutments must be approximately 10m, as described in the first technical note (signed on April 30, 2018), in consideration of the effect of adjacent construction.

3. Revetment plan

(1) Slope and type of revetment

- 1) The slope of revetment is 1: 2.0 same as FRA Bridge.
- 2) The type of revetment is the same as FRA Bridge.

(2) Placement of revetment

- 1) The revetment of Japan Bridge is matched to the end of the revetment of FRA Bridge.

4. Sharing of study and design data

- 1) Design data and geological survey results must be shared for effective use in both designs.

5. Relocation of electric pole

- 1) FRA relocates the electric poles that will hinder the construction of Japan Bridge.

Suva, March 29, 2019



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(3) 3 回目

Fiji

The Project for Reconstruction of Tamavua-i-wai Bridge

Technical Notes (3)

FRA and JICA Preparatory Survey Team confirmed the following matters on the Project for Reconstruction of Tamavua-i-wai Bridge.

1. Cost reduction

Both sides agreed that the design review was necessary to reduce costs, and that the Fiji side might bear some scopes in the process.

2. Design speed

Considering that the speed limit in Suva is 50km / h, the design speed will be changed from 60km / h to 50km / h for the following purposes.

- The bridge position should be as close as possible to the existing bridge position within the range that does not hinder the construction.
- The bridge should be designed as a straight bridge as much as possible.

3. Road width composition

As a result of discussions on the road width composition, the bicycle lane will be handled by the FRA Bridge on the downstream side and not installed on the Japan Bridge.

4. Scope and schedule of Major Undertakings

Details of the scope and schedule of Major Undertakings including the construction for Access road and River bank protection work will be discussed at the next conference.

Suva, December 20, 2019



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資料6：事業内容見直しのための検討結果

本協力準備調査においては、無償資金協力事業として妥当な事業規模とするために、2019年9月から2020年1月にかけて検討を重ねた。主な内容は以下のとおりであり、これらの検討を踏まえて採用したものが、第3章（p165）に記載されているものである。

1. 検討事項

- ① 自転車道（2.0m）を削除することにより総幅員の減少を図る。
- ② 現計画の設計速度（60km/h）を50km/hに低減することによりクロソイド曲線を削除すると共に、視距拡幅を縮小し、もって上部工幅員の減少を図る。
- ③ 架橋位置を現橋にシフトすることにより直線橋とし、張り出し長を縮小することにより上部工主桁本数の低減を図る。
- ④ 取付道路中心線を現道中心線に重ねることにより、土工数量を低減すると共に、軟弱地盤改良範囲を縮小する。
- ⑤ A1橋台への側方流動による影響を杭基礎本体で抵抗させることにより、深層混合処理工法は実施しない（ただし、杭本数は増加）。
- ⑥ 飛来塩分に対する塩害対策として、下記の4つの対策を実施しているため、さらなる対策（エポキシ鉄筋、エポキシPC鋼材、フライアッシュ等）は実施しない。
 - a) 架橋位置として海岸線からの十分な距離（380m）を確保していること。
 - b) 水面からの十分な縦断高（5.2m）を確保していること。
 - c) 飛来塩分付着面積を低減させるべく表面積の少ない橋梁形式（PCスラブ橋）を採用していること。
 - d) 塩害を考慮したかぶりの確保（上部工50mm、下部工70mm）等の対策を実施していること。
- ⑦ 轍掘れ等の対策として、下記の理由により改質アスファルトは実施しない。
 - a) 十分な層厚を確保した舗装設計を実施していること。
 - b) アフリカ等の過酷な条件下（非常に重たい過積載車、非常に高い路面温度等）にはないこと。
 - c) 現道に轍掘れが生じていないこと。
- ⑧ 橋脚等の施工後に締切り鋼矢板を埋め殺すことにより、仮棧橋の形状（規模）を縮小する。
- ⑨ 仮締切りの形状を見直し、その規模を縮小する。
- ⑩ 護岸形状の見直しを実施すると共に、その規模を縮小する。

2. 主要な検討事項についての見解

1) 自転車道の削除

- ① 現計画では両橋（本橋、新 FRA 橋）に歩道（2.0m）が設けられているため、自転車道が無くても自転車は歩道を通行できること。
- ② 歩行者の占有幅は 0.75m（必要幅 0.5m+余裕幅 0.25m）、自転車の占有幅は 1.0m（必要幅 0.6m+余裕幅 0.4m）であり、両者がすれ違う時の占有幅は 1.75m となるため、幅員 2m の歩道は自転車の通行が可能であること。
- ③ 歩行者通行量は平日 65 人/日、休日 44 人/日と少ないため、歩道を自転車が通行しても特に問題はないこと。

2) 設計速度の 60km/h から 50km/h への変更

- ① 現在のタマブア・イ・ワイ橋の橋梁位置で制限速度 30km/h、橋梁からスバ市内方向で 50km/h であること。
- ② スバ市内の制限速度は 50km/h であること。

3) 深層混合処理の不採用

- ① 円弧すべり解析を実施し、得られた側方流動圧を杭に作用させ、杭の安定計算を実施して、橋台の安全性を検証していること。
- ② 上記①の安定計算結果より、杭本数を 1 列（4 本）増やして対応していること。

4) 塩害対策

- ① 架橋位置として海岸線からの十分な距離（380m）を確保していること。
- ② 水面からの十分な縦断高（5.2m）を確保していること。
- ③ 飛来塩分付着面積を低減させるべく表面積の少ない橋梁形式として T 桁形式に代わり PC スラブ橋を採用していること。
- ④ 塩害を考慮したかぶりの確保（上部工 50mm、下部工 70mm）等の対策を実施していること。
- ⑤ 以上の点から、通常の点検作業を行い、維持管理を実施すれば支障はないこと。

5) 改質アスファルト舗装の不採用

- ① 十分な層厚を確保した舗装設計を実施していること。
- ② アフリカ等の過酷な条件下（非常に重たい過積載車、非常に高い路面温度等）とは異なること。
- ③ 現道に轍掘れが生じていないこと。

以上