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**PROJECT COMPLETION REPORT**

**PROJECT TITLE: Community Based Restoration and Sustainable Management of Vulnerable Forests of the Rewa Delta, Viti Levu**

**HOST GOVERNMENT:**  
The Government of the Republic of Fiji

**EXECUTING AGENCY:**  
Ministry of Forestry



*Partners:*



Pacific Community  
Communauté du Pacifique

**CONSERVATION INTERNATIONAL**  
Fiji



**USP**  
The Institute of Applied Sciences



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Project Coordinator of

ITTO PD 696/13 Rev.2 (F)

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## LISTS OF ACRONYMS

ADOCE	: Acting Director Operation Central Eastern
CBRSM	: Community Based Restoration and Sustainable Management
CF	: Conservator of Forests
CI	: Conservation International
DoE	: Department of Environment
DOCE	: Divisional Operation Central Eastern
EA	: Executing Agency
FDP	: Fiji Development Plan
INDC	: Intended Nationally Determined Contribution
ITTO	: International Tropical Timber Organization
ITTC	: International Tropical Timber Council
ITTA	: International Tropical Timber Agreement
MESCAL	: Mangrove Ecosystems for Climate Change Adaptation and Livelihoods
MoA	: Ministry of Agriculture
MoF	: Ministry of Forestry
MoWE	: Ministry of Waterways & Environment
MoL	: Ministry of Land
NCSMED	: National Centre for Small and Micro Enterprise Development
NGO	: Non-Governmental Organization
NDP	: National Development Plan
NTFP	: Non-Timber Forest Product
PD	: Project Document
PLA	: Participatory Learning Appraisal
PMU	: Project Management Unit
PRA	: Participatory Rural Appraisal
PS	: Permanent Secretary
PSC	: Project Steering Committee
PTC	: Project Technical Committee
SDG	: Sustainable Development Goals
SFM	: Sustainable Forest Management
SPC	: Secretariat of Pacific Community
SPREP	: Secretariat of the Pacific Regional Environment Programme
TC	: Tropical Cyclone
USP-IAS	: University of the South Pacific Institute of Applied Science
UNFF	: United Nation Forum on Forests
UNFCCC	: United Nation Framework Convention on Climate Change
UNCBD	: United Nation Convention on Biological Diversity
YPO	: Yearly Plan of Operation

## EXECUTIVE SUMMARY

This project aims to establish access mechanisms to track illegal trade in both wood and non-timber forest products (NTFP) and strengthen the existing governance framework to ensure sustainable mangrove management plans are developed and implemented in an efficient and meaningful manner.

Community-Based Restoration and Sustainable Management of Vulnerable Forests of the Rewa Delta, ITTO Project: PD 696/13 Rev.2 (F), originated from the Mangrove Ecosystems for Climate Change Adaptation and Livelihoods (MESCAL) project which reported the need to effectively manage the mangrove forest of the Tailevu and Rewa provinces and its adjacent reef community. The key problem addressed was associated with overpopulation and pressure on resource exploitation in Fiji by using demonstration areas in the Rewa Delta through local community participation.

The specific objective of the project is to reforest degraded coastal and mangrove wetlands through community-based management for biodiversity conservation and provide alternative opportunities for community livelihoods to ensure improved human wellbeing. The project's implementation strategies include (i) policy consultation, (ii) awareness creation and capacity building, (iii) economics of wetlands conservation and utilisation, and (iv) reforestation of degraded coastal and mangrove wetlands. No new activity was added during the project's implementation. The planned specific objective, outputs and associated activities did not change and have all been completed within schedule but with an extension of additional 45 months with no extra budget from ITTO.

Project beneficiaries are the local communities, government sectors, NGOs, and private sectors that have been involved in the implementation of the strategies, methods and measures. The project team worked closely in collaboration with all stakeholders and participatory method was adopted in all project activities.

Expected outcomes of the project are: (1) degraded coastal and mangrove wetlands will be restored through rehabilitation and enrichment planting, (2) envisaged that communities would have clear policies and community-based guidelines in place to provide a framework for utilization, management and monitoring of the rehabilitated areas (3) existing governance systems will be strengthened through improving coordination and monitoring of wetland management and conservation and (4) expected that after the project is completed, communities in the Rewa Delta will be protected against storm surges through a significant improvement in coastal and mangrove wetlands cover in presently degraded wetlands.

Field monitoring by ITTO and the executing agency contributed significantly to the effective execution of the planned project activities. During these monitoring exercises, challenges associated with the implementation of the project were identified and addressed. The successful implementation of the project would generate awareness among local people and stakeholders to protect the mangrove ecosystem so that the existence and preservation of mangrove forests as protected areas are maintained sustainably.

The lessons learned from this community-based project, especially for the restoration, management and utilization of mangroves can be integrated into other parts of Fiji facing similar challenges to mitigate the impacts of climate change and sea level rise. It is also recommended that a sustainability plan be drawn and discussed with the project stakeholders and partners. This plan of action and programs ensures the sustainability of the project after completion.

## 1. PROJECT IDENTIFICATION

### 1.1 Context

Fiji is an archipelago consisting of approximately 332 islands with a landmass of roughly 18,274 square kilometres. Even though Fiji is a high island setting, it does have significant human settlements and ecosystems in vulnerable coastal areas where shorelines and mangroves are threatened. In its management; plans and jurisdiction on activities related to Fiji's mangroves on all land below the mean high water mark are held in several governmental departments. These include Lands, Environment, Fisheries, Forests, i-Taukei Land Trust Board and i-Taukei Affairs.

The shoreline area consists of mangrove ecosystem, coral reef ecosystem, seagrass and sea shore forest vegetation. Fiji's coastline habitat is dominated by mangrove forests and shoreline plant life. The Ministry of Forestry includes mangrove plantations and coastal flora as forests. Additionally, in its Strategic Plan, the importance of mangroves, management of coastal areas, and mitigation of coastal erosion are taken into account in the context of rising sea levels and preservation of coastal environments and communities.

Fiji has the third largest mangrove resource in the Pacific after Papua New Guinea (372,770 ha) and the Solomon Islands (64,200 ha), with Fiji's mangrove area variously reported in the literature ranging from 33,000 ha to 52,000 ha. The Ministry of Forestry estimates the total area of Fiji's mangroves at 46,600 ha with the majority of coverage evenly dispersed around the coastlines of the two largest islands of Viti Levu and Vanua Levu. Mangrove as an ecosystem has various functions which form a crucial component of the livelihoods of coastal communities in the Rewa Delta.

#### 1.1.1. Economic Functions

Most communities in coastal and mangrove wetlands in Fiji live a subsistence livelihood and depend on coastal and mangrove wetland resources as a source of revenue. Socio-economic information gathered through the MESCAL project showed that the sale of fish, crabs, crustaceans, and firewood were the main income sources and that the average household monthly income was \$253. Local communities depend on these resources to supplement and sustain their subsistence lifestyle.

#### 1.1.2. Environmental Functions

Mangroves protect shorelines from erosion, flooding, and storm damage; and filter for pollutants to help maintain water quality. It is a habitat for various species of flora and fauna, a place of breeding, nurturing, and food niche for many aquatic biotas. They also have the role of carbon store, absorbing carbon from the air and enhancing the world's carbon reserve.

#### 1.1.3. Social Functions

Traditional activities conducted by Fijian coastal communities are supported by mangroves. The Rewa Delta mangroves are a source of crabs, fish, and mud lobsters which are collected for consumption. Households get food from the mangroves as access is easy since they do not have to pay for fuel compare to ocean or reef fishing. Dye from pigments in *Bruguiera gymnorhiza* mangrove bark is used in *masi* cloth (i-Taukei traditional cloth). Other uses; include dry wood for fuel and the harvesting of green mangroves for house materials and also for traditional herbal medicines.



#### **1.1.4. Location**

The project location is the Rewa Delta (35,238 ha); which comprises the Provinces of Rewa and Tailevu located in the southeast of Viti Levu Island and is less than 2m above high tide level and particularly vulnerable to coastal flooding. Like many coastal ecosystems and communities, it is prone to rising sea level, eroding coastlines, and inundated agricultural and freshwater lands. The target area for the project implementation is the coastal and mangrove wetlands of the Rewa Delta in the Tikina of Bau, Province of Tailevu, and Tikina of Noco and Vutia, Province of Rewa. The project selected sites are the villages of Muanaira and Narocake of the Rewa Province and Natila, Waicoka, Naivakacau and Nasilai of the Tailevu Province.

#### **1.1.5. Relevant National and Regional Policies and Programme**

Fiji is a nation that is very committed to positively contributing to the environment at not only local levels, but also internationally. As an island nation, Fiji is well aware of climate change and its effects such as global warming and rising oceans. Fiji's Intended Nationally Determined Contributions (INDC) and commitment to the Sustainable Development Goals (SDG), Convention on Biological Diversity (CBD), the United Nations Forum on Forests (UNFF), and the United Nations Framework Convention on Climate Change (UNFCCC) are just a few examples of how Fiji sees itself contributing to the environmental and climate change initiatives globally. These are further augmented by the Green Growth Framework, Fiji's Carbon Market goals and Emissions goals.

Fiji became a member of RAMSAR in 2006. Mangroves are classified under wetlands in the Ramsar convention, which is the main international body set up to manage them. The Convention on Wetlands, signed in Ramsar, Iran, in 1971, provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources. In line with RAMSAR, the Fiji Forest Policy Statement (2007) clearly articulates and commits the Department of Forest to "introduce an effective mangrove regulatory management framework" through wide stakeholder consultation to (1) actively review mangrove management and (2) permanently advocate the "... conservation of mangroves to provide for sustainable customary uses, the sustenance of coastal fisheries, the protection of shorelines, and as an adaptation measure against climate change impacts".

The project supports the International Tropical Timber Agreement (ITTA 2006) by addressing Article 1 sub-elements (c), (j), (m), (n), (q) and (r). In particular, the project will promote a "better understanding of the contribution of non-timber forest products and environmental services to the sustainable management of tropical forest..." In addition, the project will assist the Government of Fiji to assess the extent of the illegal trade of mangrove fuelwood and formulate cost-effective tracking mechanisms.

Moreover, the project also supports Strategic Priority 4 of ITTO Action Plan 2013 – 2018, to reduce deforestation and forest degradation and enhance the provision of environmental services, and Strategic Priority 6, that is, to build and develop human resource capacity to implement SFM and increase trade in forest goods and services from sustainably managed forests. This project directly supports the ITTO Work Plan 2013-2014 Strategic Priority 4; Activity (10) and (11) at the national scale, likewise the project supports the key objectives and outputs outlined under the joint initiative of CBD and ITTO in 2010 to enhance biodiversity conservation in tropical forests with the direct participation of local stakeholders, addressing the main drivers of biodiversity loss in tropical forests, deforestation and forest degradation.

## 1.2. Origin and problems addressed

The Rewa Delta is Fiji's largest contiguous area of mangroves and is, therefore, a recognized priority site for conservation by the Fijian government. Forest loss in coastal and mangrove wetlands in Fiji has been estimated as high as 30%. Mangrove loss over the period 2001–2018 was estimated at 1,135 hectares, a decrease of 1.7% in cover since 2001 with an average annual rate of loss of 0.11%. 77% of loss can be directly attributed to the successive impacts of Tropical Cyclones (TCs). After TCs, the next most significant drivers of coverage loss were the conversion of mangroves for tourism development and coastal reclamation followed by the disposal of dredging spoil in the Ba and Rewa Deltas. The remaining loss was attributable to smaller-scale conversion for industrial estates, squatter housing, agriculture and construction of sugarcane tram lines, as well as harvesting for both fuelwood and construction materials. (MoE, 2018)

MESCAL report stated that mangrove systems in the Rewa Delta have experienced rapid change in the form of degradation and loss due to increased human activity. It indicated that all vegetation types are in severe or extreme degrees of degradation and factors contributing to these problems will reduce the significance of this pristine and diverse ecosystem. The Rewa River, the widest river in Fiji feeds into the Rewa Delta which has four principal vegetation: (1) lowland rainforest, (2) freshwater wetland vegetation, (3) mangrove forest and scrub, and (4) coastal strand vegetation of which are all under threat.

The main causes of the key problem were identified; the rapid growth of the human population and intensive agricultural development has led to the reduction in vegetation area and critical habitat loss, siltation in the river system, degradation and potential overexploitation of the resources. As human population increases, the demands for wetland resources and the threats to these valuable ecosystems can be expected to increase. It is, therefore, necessary to adopt relevant practices to rehabilitate and conserve the Delta and adjoining coastal forest.

In response to the above problems, the need to effectively manage the mangrove forest of the Tailevu and Rewa provinces and its adjacent reef community was strongly recommended by MESCAL that brought about this project. The project ITTO PD 696/13 Rev. 2 (F) entitled "Community Based Restoration and Sustainable Management of Vulnerable Forests of the Rewa Delta, Viti Levu, Fiji", was proposed by the Ministry of Forest on behalf of the Government of the Republic of Fiji submitted to ITTO in 2014 and approved by the International Tropical Timber Council (ITTC) in 2015.

The project agreement was signed in June 2015 by the Executive Director of ITTO and Permanent Secretary of Finance on behalf of the Fiji Government. The project implementation officially commenced on November 6<sup>th</sup>, 2015. The project was funded by the Government of Japan through the International Tropical Timber Organization (ITTO), with cost-sharing contributions executed by the Ministry of Forests and collaborated by four main agencies, Conservation International (CI), University of the South Pacific Institute of Applied Science (USP-IAS), Secretariat of the Pacific Community (SPC) and the Ministry of iTaukei Affairs.

## **2.0. PROJECT OBJECTIVES AND IMPLEMENTATION STRATEGY**

### **2.1. Project objectives and outcome indicators**

The development objective of the project is to rehabilitate degraded coastal and mangrove wetland while improving the livelihoods of local communities through the enhancement of such systems with species diversity, closely resembling their occurrence in nature. Indicator of the impact of the development objective includes the mainstreaming of project activities into the target communities, with its relevant physical evidence and extent of rehabilitation of degraded coastal and mangrove wetland areas and the formulation of a policy framework to support the sustainable management of coastal and mangrove wetlands.

Specific project objectives include the need to better understand challenging issues and concerns about improving the management of coastal and mangrove wetlands, resulting in the rehabilitation of coastal and mangrove wetlands and the generation of alternative livelihoods that would take the pressure away from natural capital in coastal and mangrove wetlands. Outcome indicators under the specific objective include the development and formulation of a project monitoring framework to continuously monitor and evaluate its impact, efficiency and effectiveness against the purpose of the project, implementation programs, project personnel, financial administration and others. By the end of the project, one of the key indicators will be the total area rehabilitated as well as the number of alternative livelihood interventions that are mainstreamed into participating communities.

The project development and specific objectives support the International Tropical Timber Agreement (ITTA 2006) by addressing Article 1 sub-elements (c), (j), (m), (n), (q) and (r). In particular, the project supports the ITTO Action Plan 2013 – 2018 in the field of reducing deforestation and forest degradation and enhancing environmental services in Tropical Forests. The project objectives are also aligned to the ITTO 2013 -2014 work plan to support countries to reduce emissions from forest degradation and deforestation as well as to track the illegal trade of timber.

### **2.2. Project Implementation Strategy**

The project collaborated with all stakeholders, directly and indirectly, interested in the Rewa Delta. All activities are executed and implemented in consultation, cooperation, and collaboration with project partners, stakeholders as the project's work network and of course local community as the main beneficiaries. The implementation strategy incorporated the key problems that resulted in the degrading and loss of the mangrove ecosystem in Fiji.

The project undertook a participatory approach to engage with stakeholders and developed a consensus-based vision for the policy framework, community-based livelihood options and rehabilitation work. The processes involved in mobilizing community participation concerning mangrove restoration were progressive and clear documentation was made to record successes and failures. Publications from the project are advocated for use by other communities facing similar challenges of resource depletion and mitigating against deforestation and climate change. The implementation strategy undertaken aimed to promote conservation and increase the participation of the local communities in mangrove rehabilitation. The following strategies were undertaken for project implementation:

### **2.2.1. Policy consultation**

Existing policy documents, policies, and regulatory frameworks related to the management of the coastal and mangrove wetlands in Fiji were reviewed through desk study and literature review. After the compilation and identification of weaknesses, experts' and relevant stakeholders' opinions were sought through focus group workshops. Focus group meetings targeted the wider communities in the Rewa Delta; in particular the people in the six project sites. The focus groups were established at the national, provincial, and community levels where stakeholders exchanged information, experience and ideas. The Project also initiated several communications and coordinated focus meetings in thirty-three other villages of the Rewa Delta in collaboration with the Ministry of Fisheries, Agriculture, Lands, Environment, the Police Department, Conservation International and the Rewa Provincial office.

### **2.2.2 Awareness Creation and Capacity Building**

Participatory workshops were convened in the communities to sensitize members on the relevance of the project and in particular the importance of wetlands, potential threats they face and the need for sustainable utilisation. The workshops used tools of Participatory Learning Appraisal (PLA). Scope of the training covered management of the community's mangrove forest, development of community nurseries, planting methods and production of planting materials. Training participants included local communities; women, men and youth. Training programs and modules were developed with the assistance of professionals from Conservation International and staff from the School of Forestry in Colo i Suva. To promote the participation of stakeholders, the project used various media tools such as local newspapers and radio stations, printed materials, videos, and social media to disseminate information on the importance of mangrove restoration and their conservation nationwide and international wide.

### **2.2.3. Economics of Wetlands Conservation and Utilisation**

The economics of wetlands conservation and sustainable utilisation was also considered concerning fuel wood. The traditional use of coastal and mangrove wetlands is mainly in the extraction of non-wood products. MESCAL was also involved in an economic survey of fuel wood, as well as coastal and mangrove wetlands resources. The study involved the assessment of the market demand and supply situation as well as harvesting, monitoring, and surveillance issues related to production to assess options for improving management since illegal harvesting and over-subsistence use of mangroves is one of the main causes of mangrove loss in the Rewa Delta.

### **2.2.4. Reforestation of Degraded Coastal and mangrove wetlands**

Degraded coastal and mangrove wetlands were rehabilitated with specific wetland species such as *Calophyllum inophyllum*, *Myristica casteinofolia*, *Inocarpus fagiferus*, *Terminaliacattapa*, *Barringtonia asiatica*, *Heritiera littoralis*, *Xylocarpus moluccensis*, *Rhizophorasamoensis*, *R. stylosa*, *R. x selala*, *Bruguiera gymnorrhiza*. The above-mentioned coastal tree species were planted by the application of techniques developed by the Department of Forestry and Conservation International. In the selected sites, mixed species planting was the mode of rehabilitation to closely follow natural habitats distribution and dispersal. Also, particular consideration was taken to match species to suitable sites to enhance survival and development. Rehabilitation achieved the need to conserve and protect the natural resources in the Rewa Delta and to safeguard the livelihood, rights and social well-being of the forest fringe communities of the project sites.

### 2.3. Assumptions and Risks

In developing the project, the following assumptions were made which included:

- (i) the need to restore degraded wetland ecosystems will be supported by the target communities, the population of the greater Rewa Delta, partners, Government agencies and Provincial Administration in the Province of Rewa and Tailevu;
- (ii) the Government and Provincial Offices will provide technical assistance to ensure timely and effective implementation of project activities;
- (iii) seeds and vegetative materials for timber propagation are locally available. It is further assumed that the Executing Agency will provide access to seeds of various species that are considered important by the communities but not readily available in the local vicinity.
- (iv) the Department of Agriculture will provide support services on the supply of crops that are naturally found in coastal and mangrove wetland areas.

These assumptions held during the project duration. Implementation of the project, fortunately, faced no problem relating to these assumptions. The local communities actively participated in restoring degraded wetland ecosystems and enthusiastically got involved and participated in the construction of other alternative livelihood projects. The Ministry of Forestry consistently supported the implementation of the Community-Based Restoration Project; partners, government agencies and Provincial Administration were always committed and involved in the training or dissemination activities indicating their support for Community Based Restoration and Sustainable Management of Vulnerable forests of the Rewa Delta.

Risks involved with the project include bush fires, illegal extraction by community members not directly involved with the project, and lack of seeds and propagating material for reforestation and rehabilitation. A key activity to mitigate the above risks is to ensure that there is wide-spread awareness of the project by the general public, not only the target group of the project but neighboring communities and municipalities. Community awareness was through posters, media releases and awareness workshops. Community members in the project sites were encouraged to police the planted sites and follow existing village by-laws to prosecute offenders. In addition, a two-week community awareness programme was conducted to members of 33 villages in the Rewa Province that were not directly involved with the project.

As for native tree and fuel wood planting; seeds, crops supply and propagating material for reforestation and rehabilitation were readily supplied by the Department of Agriculture at Nausori and the Ministry of Forestry Extension Division in Colo i Suva.

### **3.0. PROJECT PERFORMANCE**

#### **3.1. Planned versus realized project performance**

In this project PD 696/13 Rev.2 (F) there are 15 activities implemented to achieve 4 outputs. Generally, overall activities were carried out thoroughly, although some activities were delayed due to heavy rain that normally occurred for days during the cyclone season from November to April, flooding, tropical cyclones, Covid -19 and delay in the release of funds by the Ministry of Economy. All project activities were completed, but certain activities were not realized on schedule under the planned timeline in the project document.

##### **3.1.1. Objective**

###### **3.1.1.1 Development Objective**

To rehabilitate degraded coastal and mangrove wetland while improving the livelihoods of local communities through the enhancement of such systems with species diversity and mix closely resembling their occurrence in nature.

###### **3.1.1.2. Specific Objective**

The need to better understand challenging issues and concerns of better and improve management of coastal and mangrove wetlands; rehabilitation of coastal and mangrove wetlands and the generation of alternative livelihoods that would take the pressure away from natural capital in coastal and mangrove wetlands.

###### **3.1.1.3. The outcome indicators of these objectives were as follows:**

###### **Outcome indicators: Output 1**

- (i) Communities become better informed of the importance of coastal and mangrove wetlands
- (ii) Local communities are guided to make informed decisions on the most suitable alternative livelihood option for adoption through the participatory development of a Land Use Plan.
- (iii) Communities are trained on their preferred livelihood options.
- (iv) Communities have adopted and implemented livelihood options.

###### **Outcome indicators: Output 2**

- (i) 100ha of deforested wetlands rehabilitated.
- (ii) Individuals trained on species identification, seed collection and nursery techniques for native species.
- (iii) A guideline for degraded coastal mangrove wetland restoration is published.

### **Outcome indicators: Output 3**

- (i) Change in perception and management of coastal and wetland mangrove system.

### **Outcome Indicators: Output 4**

- (i) Key institutions have been identified and recommendations have emerged from consultation outlining responsibilities and institutional linkages between legislated responsibilities with clear roles and responsibilities, identifying levels of coordination, collaboration and networking.
- (ii) Recommendations emerge from consultative stakeholder workshop to identify key policy issues, hopes and aspirations for the sustainable management of coastal and mangrove wetlands.
- (iii) Executing agency has adopted a reviewed licencing system for utilization of fuel wood sourced from coastal and mangrove wetlands.
- (iv) Executing agency adopts the revised licensing, monitoring and surveillance system for fuel wood.

### 3.1.1.4. Outputs and related activities

**Table 1. Project activities completion status**

<b>Output 1.0</b>	
<b>Local communities are trained and empowered to implement activities linking livelihoods improvement to reduce over-dependence on coastal and mangrove wetland resources.</b>	
<b>Activities</b>	<b>Completion status</b>
1.1. Community workshops on the importance of coastal and mangrove wetland.	Completed – 100%
1.2. Community training PRA workshop to assist communities to identify livelihood options in communities.	Completed – 100%
1.3. Training workshops to assist local communities to adopt and implement identified livelihood options.	Completed – 100%
1.4. Organize media programs for public education.	Completed – 100%
<b>Output 2.0</b>	
<b>Degraded coastal and mangrove wetland rehabilitated and guidelines for restoring degraded coastal and mangrove wetlands developed.</b>	
<b>Activities</b>	<b>Completion status</b>
2.1. Community training on tree seed collection, nursery techniques and establishment of nursery.	Completed – 100%
2.2. Community training on the planting of seedlings.	Completed – 100%
2.3. Training workshop to assist communities to formulate community policy, and laws to maintain, monitor and ensure survival of planted trees.	Completed – 100%
2.4. Guidelines for wetland restoration developed.	Completed – 100%



<b>Output 3.0</b>	
<b>Maintain and enhance traditional knowledge and skills that will enable communities to value and sustain resource utilization.</b>	
<b>Activities</b>	<b>Completion status</b>
3.1. Collate traditional knowledge and document skill sets needed for harvest and preservation of key food/timber sources from coastal and wetland mangrove systems.	Completed – 100%
3.2. Conduct community training to disseminate and build capacity for uptake of knowledge and skills gathered.	Completed – 100%
3.3. Publish for wider dissemination of information gathered from Activity 3.1 above.	Completed – 100%
<b>Output 4.0</b>	
<b>Framework to support existing mangrove policy and legislation.</b>	
<b>Activities</b>	<b>Completion status</b>
4.1. Consultative workshop to identify levels of coordination, collaboration and networking among key institutions – and collate key issues on coastal and mangrove wetlands.	Completed – 100%
4.2. Undertake a cost-benefit study on the extent of illegal trade in fuel wood sourced from coastal and mangrove forests and make recommendations aligned to National Forest Policy 2007.	Completed – 100%
4.3. Assessment of fuel wood licensing system to identify challenges and status of illegal sale of fuel wood; make a recommendation for future management based on cost-benefit analysis.	Completed – 100%
4.4. Develop, advocate and streamline the approval of a Code of Conduct for Sustainable Management of Mangrove Ecosystems through relevant Government Agencies.	Completed – 100%

### 3.2. Project Duration

The ITTO Project PD 696/13 Rev.2 (F) officially started on October 21, 2015, which was the date of the first budget installment received by the Executing Agency. Based on the project document and project agreement, the project duration was for 36 months or, three-years, while the realized project duration was 81 months with an additional 45 (forty-five) months extension, however, the project extension was conducted without any additional budget from ITTO. The extension of project duration was due to heavy rain downfall that normally occurred for days during the cyclone season from November to April, flooding, tropical cyclones, Covid-19 and delays in the release of funds by the Ministry of Economy. This situation caused some activities to be postponed and affected the timely implementation of certain project activities. Finally, the project was officially ended on December 8 2022 without any further cost involved.

### 3.3. Project Budget and input Applied

The total budget of the project was US\$ 387,511.00, among US\$ 310,576.00 was ITTO's contribution and US\$ 76, 935.00 was the Government of Fiji's contribution, in cash and kind. However, the budget was reduced as the ITTO project received US\$36,020 out of **US\$50,000** of instalment three. So, instead of having **US\$249,800** to be used for the implementation of the project as outlined in the Project Agreement, the budget was reduced to **US\$235,820**. (Table 2). The financial report had been audited every year by Ernst & Young (EY), an independent auditor, and the last audit commenced on May 6, 2022 and ended on 30<sup>th</sup> May. Total expenditures up until April 30, 2022, amounted to **US\$228,924.00** from a total installment received of **US\$ 235,800.00** with a balance of funds of **US\$6,896.00**. The audit report was submitted to ITTO Japan and approval was given for the project to utilize the remaining funds for project completion. The remaining funds of **US\$6,896.00. (FJ\$12,619.00)** was used to pay Ernst & Young (EY), for the 2021-2022 Financial Audit, amounted to **US\$3,376.69 (FJ\$6,440)** and payment of **US\$3,519.31 (FJ\$6,179.00)** to Tropic Beat Studio for the project video documentary. The ITTO project funds were all received in six installments as follows:

**Table 2. ITTO Contribution to project activity**

Installment No.	Total USD (BUDGETED)	Date Received	Total USD Received (ACTUAL)	Comments	Total Expenditure As at 30 <sup>th</sup> April, 2022 (USD)	Balance of Funds As at 30 <sup>th</sup> April 2022 (USD)
1	\$60,000	20/10/2015	\$60,000	Received	Refer to Annex 1 (Financial Statement)	Refer to Annex 2 (Cash Flow Statement)
2	\$50,000	25/04/2016	\$50,000	Received		
3	\$50,000	25/04/2016	\$36,020	Received		
4	\$40,000	29/07/2020	\$40,000	Received		
5	\$25,000	29/07/2020	\$25,000	Received		
6	\$24,800	10/02/2022	\$24,800	Received		
<b>Total</b>	<b>\$249,800.00</b>		<b>\$235,820.00</b>		<b>\$228,924.00</b>	<b>\$6,896.00</b>

During project implementation, certain purchased goods, equipment, machinery, and motor vehicle were used to support the achievement of the project's targets and goals. Purchased equipment supported administrative work of the project management unit, as well as for reporting and documentation purposes such as personal computer, printer and overhead projector. A list of equipment and machines that have been purchased by the project is tabulated below.

**Table 3. List of Capital Items (US\$)**

ITEM	UNIT	PRICE	YEAR	REMARKS
Laptop: HP Pro Book 450L5	1	US \$850.00	15/06/2015	Good/Forestry Headquarters
Laptop: Dell	1	US \$892.00	04/12/2015	Faulty/With IT for repair
Overhead Projector: NEC NP-VE281	1	US \$657.00	23/11/2015	Good/Nausori Office
Motor Vehicle: Toyota Hilux 4 Wheel Drive Double Cab - Licence Number Plate-GP968	1	US \$35,000.00	25/05/2016	Good/Nausori Office
Portable Sound System with Cords and Mic	1	US \$1,808.00	06/05/2016	Good/Nausori Office
Printer: Brother Color Printer MFC850 10 DN	1	US \$453.00	02/06/2016	Good/Nausori Office
Chainsaw: Husqvarna Model #236	1	US \$670.00	06/10/2016	Faulty and write-off/Nausori Office

## 4.0 PROJECT OUTCOME AND TARGET BENEFICIARIES INVOLVEMENT

### 4.1. The specific objective achieved

Planned activities relating to each output were all implemented and completed to fully deliver Outputs 1, 2, 3 and 4. The achievement of the specific objective has been assessed using the outcome indicators presented in the project document. Based on the project document, specific objectives to be achieved at the end of project periods included the need to better understand challenging issues and concerns for better and improve management of coastal and mangrove wetlands; rehabilitation of coastal and mangrove wetlands and the generation of alternative livelihoods that would take the pressure away from natural capital in coastal and mangrove wetlands. Therefore, the specific objective has been entirely achieved.

For the delivery and implementation of project activities, the project organized an In-House workshop to introduce the ITTO Project to the respective divisions of the Department of Forestry and identified areas where divisions would be involved. This resulted in the project collaborating closely with the following divisions;

- Central Eastern Forestry, Nausori office, played the lead role in implementing this project under the leadership of Director Operation Central Eastern.
- Forestry Training Centre facilitated the training and awareness in communities under component 1 of the project.
- Silviculture Research Division assisted in implementing activities under components 2 and 3 of the project that was on community training on seed tree collection.
- Management Services Division assisted in implementing activities under component 1 of the project that was on area mapping.
- Extension Division assisted in implementing activities under component 2 which was on community training, nursery techniques and the establishment of nurseries.

In addition, the Collaborating Partners assisted in the delivery and implementation of project activities as follows:

- Conservation International (CI) coordinated Component 1: Community Awareness and Alternative Livelihood Options.
- University of the South Pacific (IAS) coordinated Component 2: Rehabilitation and Restoration of Degraded Coastal Mangrove Ecosystem and Component 3: Maintain and Enhance Traditional Knowledge and Skills.
- Secretariat of the Pacific Community (SPC) coordinated Component 4: Development of a Mangrove Management Guideline

The four outputs were achieved through 15 activities that were conducted and completed as explained in the section below.

#### 4.1.1 OUTPUT 1:

##### **LOCAL COMMUNITIES ARE TRAINED AND EMPOWERED TO IMPLEMENT LINKING LIVELIHOODS IMPROVEMENT TO REDUCE OVER-DEPENDENCE ON COASTAL AND MANGROVE WETLAND RESOURCES.**

The project completed all training and capacity-building activities to (1) educate the public and local communities on the importance of coastal and mangrove wetland, (2) empower local communities to identify and adopt alternative livelihood options, (3) involve villagers in mapping exercises and construction of nurseries, (4) strengthen community institutions and (5) to develop the community management action plan. Five training workshops were conducted from 2016 to 2018 with more than 300 village community members participated. For the achievement of Output 1, four activities were carried out to address the over-dependence on coastal and mangrove wetland resources as follows:

##### **4.1.1.1. Activity 1.1. Conduct community workshops on the importance of coastal and mangrove wetlands.**

Activity 1.1 and Activity 1.2 were carried out directly under the coordination of the project coordinator in collaboration with partners and other government ministries. Feedback from the workshop evaluation indicated that all workshop participants fully comprehended the need for sustainable management of the mangrove ecosystem and silviculture techniques, and had a better understanding of ecosystem services and the roles of mangroves in disaster risk reduction and local environmental improvement. Additionally, they have learnt the importance of mangroves towards climate change mitigation and adaptation; and how to implement an applied management action plan for the conservation of mangrove forests and sustainable agricultural practices.

Community awareness and training commenced on February 15, 2016 and ended on March 21, 2017. Resource personnel from the three collaborating partners and other government departments were involved in the training. They were: SPC, CI, USP, OISCA, Fisheries Department, Agriculture, Forests, Lands, Environment, National Heritage & Culture and Provincial Office. The Project Coordinator collaborated with the technical staff from the Forestry Training Centre as facilitators and the total number of participants who attended this workshop was 192. The awareness package for the community workshops and training was prepared by Conservation International and delivered to the communities in the *i-Taukei* language (Fijian Vernacular).

**Table 4. Workshop Attendance on the importance of coastal and mangrove wetlands.**

Date	Venue (Project Site)	Participants		
		Male	Female	Total
15 <sup>th</sup> – 16 <sup>th</sup> February, 2016	Waicoka village	23	11	34
09 <sup>th</sup> – 10 <sup>th</sup> July, 2016	Nasilai village	22	8	30
27 <sup>th</sup> – 28 <sup>th</sup> June, 2016	Natila village	21	9	30
04 <sup>th</sup> – 05 <sup>h</sup> July, 2016	Naivakacau village	20	12	32
05 <sup>th</sup> – 06 <sup>th</sup> September, 2016	Muanaira village	17	9	26
20 <sup>th</sup> – 21 <sup>st</sup> March, 2017	Narocake village	27	13	40
<b>Total Participants</b>		<b>130</b>	<b>62</b>	<b>192</b>

#### 4.1.1.2. Activity 1.2. Conduct community training PLA workshops to assist communities to identify livelihood options in communities.

The Community Training PLA workshop was conducted in collaboration and with technical support from partner agencies; CI, USP-IAS and SPC. This training commenced on June 20, 2016, and ended on March 24, 2017. The total number of participants who attended the workshop was 181. Participatory Learning Appraisal (PLA) was implemented to assist villagers in identifying alternative livelihood options. Training participants were involved in the following PLA:

- 1) **Transect walk** - a tool for describing and showing the location and distribution of resources, features, landscape, and main land use along a given transect. It is used in identifying and explaining the cause and effect relationships among topography, soils, natural vegetation, cultivation, production activities, and human settlement patterns, identifying major problems and possibilities perceived by different groups of local analysts concerning features or areas in the transect. It also identifies the natural resources, present land use, vegetation, changes in the physical features and cropping systems.
- 2) **Resource Mapping** - a tool that is used to learn about a community and its resource base. The primary concern is not to develop an accurate map but to get useful information about local perceptions of resources. The main focus of conducting this PLA tool is to encourage participants' perception of what natural resources are found in the community and how they are used.
- 3) **Stakeholder analysis** is conducted to assist communities in identifying all primary and secondary stakeholders who have a vested interest in the issues with which the project or policy is concerned. The goal of stakeholder analysis is to develop a strategic view of the human and institutional landscape, the relationships between the different stakeholders and the issues they care about most.

After conducting the PLA exercise, participants were then requested to work in small groups to list their findings from the transect walk, resource mapping, and stakeholder analysis with results presented by the group leader. From the PLA findings, participants were tasked to formulate their Community Management Action Plan which addresses social, economic and environmental issues. In the execution of this activity, participants were inspired to come up with all emerging issues and also indicated the responsible government agency which could provide funding assistance.

At the end of this workshop, all the participants were able to recognise the importance of coastal and mangrove wetland resources with the ability to identify alternative livelihood options. The Communities Management Action Plan was disseminated to the respective communities, stakeholders and collaborative partners a week after the training for further discussions on the implementation of the action plan.

**Table 5. Attendance on PLA workshops for communities to identify livelihood options.**

Date	Venue (Project Site)	Participants		
		Male	Female	Total
20 <sup>th</sup> – 22 <sup>nd</sup> June, 2016	Waicoka village	18	5	23
11 <sup>th</sup> – 13 <sup>th</sup> July, 2016	Nasilai village	22	8	30
29 <sup>th</sup> June – 01 <sup>st</sup> July, 2016	Natila village	21	9	30
06 <sup>th</sup> – 08 <sup>h</sup> July, 2016	Naivakacau village	20	12	32
07 <sup>th</sup> – 09 <sup>th</sup> September, 2016	Muanaira village	17	9	26
22 <sup>nd</sup> – 24 <sup>th</sup> March, 2017	Narocake village	27	13	40
<b>Total Participants</b>		<b>125</b>	<b>56</b>	<b>181</b>

Five identified alternative livelihood options were promoted as practicable means of reducing household dependence on mangroves and fishing for income. These include Nursery and tree Planting, Cash cropping and Home Gardening, Aquaculture, Sewing, and Small Business Skills Training. A feasibility study was conducted to determine the viability of all the alternative livelihoods selected. However, for aquaculture, brackish water shrimp ponds could be constructed in all the six project sites except for Nasilai and Muanaira village. Hence, the two villages agreed that Apiculture (Beekeeping Project) will be implemented in Muanaira and Piggery-Rearing Project for Nasilai village.

The Women Groups in the six communities of the Rewa Delta were recognized as one of the important stakeholders involved in mangrove forest restoration. They were empowered through alternative livelihood options for them to recognize the importance of mangroves and understood how they might contribute to the mitigation of climate change impacts. This is in line with SDG 5 (Gender equality and empowerment of women) as outlined in Fiji National Development Plan (NDP: 2017-2036), which states that rural women need to be empowered to reach their full development potential.

Since women in these communities have considerable time to spare it was necessary to provide a suitable window to enable them to utilise their spare time productively. So, part of the training included themes such as the value of mangroves in supporting women and their families, environment and gender issues and broadening alternative livelihood opportunities to ensure that women gain access to benefits.

The training was attended by 56 women participants and empowering them through alternative livelihood projects really inspired them to be more active in project implementation and likewise became more confident in their participation in all project activities. Their willingness to participate through the contribution of their labor was a vital component of the project in terms of collecting propagules, planting and monitoring the mangrove replanting programme.

#### **4.1.1.3. Activity 1.3 Conduct training workshops to assist local communities to adopt and implement identified livelihood options.**

This activity assisted communities in adopting identified livelihood options provided in Activity 1.2. Community training workshops commenced on June 20, 2016, and ended in November 29, 2021. The total number of participants who attended the workshop was 448.

The creation of alternative income opportunities for the local communities constituted an important pillar of the project. It improves livelihoods, builds relationships within the local population, increases the support for project activities, and is an important measure to reduce the pressure on the mangrove forests. The alternative livelihood options listed in Activity 1.2 were implemented with a firm foundation that could make real differences in the lives of those involved. They were the result of considerable efforts undertaken since 2016; to work with communities in building their capacity to carry them out and to their contentment, all were completed as listed below.

- Construction of six permanent community nurseries with water tanks to raise livelihood trees for each village at the six project sites.
- Construction of Tailevu Nursery Distribution Center (Vunivivi) and Rewa Nursery Distribution Center (Burebasaga) with water tanks to cater for seedlings purchased from the six communities.
- Cash cropping and Home Gardening through the Ministry of Agriculture supplying vegetable seeds, cassava cuttings and taro tops.
- Construction of Brackish water shrimp ponds at Narocake, Naivakacau, Natila and Waicoka. The four communities have harvested the first cycle of prawn farming.
- Bee farming at Muana-I-Ra (20 beehive double boxes) and Piggery farming at Nasilai.
- Two weeks of basic sewing machine training for women from the six project sites at Fiji National University (FNU) and 30 sewing machines provided for alternative livelihood (5 sewing machines for each village). Participants were provided with accredited certificates for job opportunities in garment factories in Suva and Nasinu.
- One week of Business training skills by NCSMED (National Center for Small Micro Enterprises Development) to encourage villagers at the six project sites to start their own businesses. Participants were provided with Certificates.

In 2019, the Permanent Secretary of Forestry officially opened the first completed Brackish Water Shrimp pond at Narocake village while the Minister of Forestry opened the Tailevu and Rewa Nurseries Distribution Centers in 2020.

The implementation of alternative livelihood options for the six communities was a time-consuming process and recognition must go to all involved. Special mention must go to the Department of Forestry, Fisheries and Agriculture, for their considerable effort as well as the Ministry of Women and the National Centre for Small and Micro Enterprises Development (NCSMED) for all their support. The six communities taking part in ITTO livelihoods actions must also be applauded for without their dedication, hard work and belief, little could have been achieved.



**Table 6. Workshop Attendance on the implementation of identified livelihood options**

Date	Venue	Alternative Livelihood	Organisation Involved	Participants		
				Male	Female	Total
22 <sup>nd</sup> Oct, 2019	Naivakacau	Cash cropping	Agriculture	21	18	39
11 <sup>th</sup> Nov, 2019	Natila	Tree Planting (Fruit Trees & Sandalwood)	Forestry	20	12	32
12 <sup>th</sup> Nov, 2019	Narocake	Tree Planting (Fruit Trees & Sandalwood)	Forestry	23	18	41
13 <sup>th</sup> Jan, 2020	Nasilai	Tree Planting (Fruit Trees & Sandalwood)	Forestry	18	13	31
14 <sup>th</sup> Jan, 2020	Naivakacau	Tree Planting (Fruit Trees & Sandalwood)	Forestry	22	17	39
20 <sup>th</sup> Jan, 2020	Waicoka	Aquaculture	Fisheries	23	11	34
21 <sup>st</sup> Jan, 2020	Naivakacau	Aquaculture	Fisheries	17	9	26
22 <sup>nd</sup> Jan, 2020	Natila	Aquaculture	Fisheries	24	13	37
23 <sup>rd</sup> Jan, 2020	Narocake	Aquaculture	Fisheries	27	13	40
22 <sup>nd</sup> - 24 <sup>th</sup> Feb, 2020	Nasilai	Piggery-Rearing	Agriculture	23	14	37
23 <sup>rd</sup> - 27 <sup>th</sup> Nov, 2020	Waicoka	Business Training	NCSMED	10	20	30
30 <sup>th</sup> Nov - 3 <sup>rd</sup> Dec 2020	Nabua	Sewing Machine Training	Fiji National University	0	30	30
29 <sup>th</sup> Nov, 2021	Muanaira	Apiculture (Beekeeping)	Agriculture	21	11	31
<b>Total</b>				<b>249</b>	<b>199</b>	<b>448</b>

#### **4.1.1.4. Activity 1.4. Organize media programs for public education on the importance of coastal and mangrove wetlands.**

The media played an important role in the project in facilitating its national awareness campaign and public education on the importance of coastal and mangrove wetlands. For this activity, various media tools such as local television, newspapers, printed materials, video, and social media were used to disseminate information on mangrove resources and their importance for coastal protection against sea level rise.

The Project banners that were used during awareness training and workshop have photographs of students and children from the six project sites. The purpose was to create awareness amongst the children of these six communities that they are part of the restoration programme and owners of the mangrove ecosystem in the future which makes them users of resources in years to come. Public awareness and education encouraged the students and children from the six communities to be involved in the project. For instance, the students of Waicoka Primary school participated in a mangrove planting programme with the ITTO Secretariat, Dr. Hwan-Ok Ma, during his project site visit on 15 August 2019 at Waicoka.

The project launched a documentary video on television and social media to disseminate information on mangrove resources and their importance nationally and internationally. It was launched at the Grand Pacific Hotel on Thursday, 8<sup>th</sup> of December, 2022 by the Prime Minister of Fiji and Minister of Forestry, the Honorable Mr. Josaia Voreqe Bainimarama and the Japanese Ambassador in Fiji, H. E. Mr. KAWAKAMI Fumihiro. The main objective of this video is to promote and enhance the mangrove restoration awareness campaign through a community-based approach; showing local community members in the six communities and other stakeholders' involvement in the restoration programme and their response to the positive impacts of the ITTO Project in the Rewa Delta which can be replicated in other parts of Fiji and other Pacific region.

Information gathered (photos, videos, articles and evaluation results) from training or major activities at project sites were normally provided to the Executive Support officer of the Ministry of Forestry, to be posted on the Ministry website or sent out to the various media agencies such as the Fiji Sun, Fiji Times, FBC TV and Fiji TV; targeting community and general audiences. Publications produced from the activities and studies conducted by the project; including posters, guidelines, articles, flyers and other materials are listed below in Table 7. Subsequently, included were some of the awareness activities and events participated in and organized by the project which were covered by media and the news.

**Table 7: Awareness Activities and Publications - posters, articles, flyers, website and other materials published by project**

TITTLE/ACTIVITY	YEAR	AUTHOR/MEDIA	TYPE
<b>Talk Back Show</b> - The Project Coordinator participated in a local Hindi “talk back show” on the radio. The topic was mangrove conservation and the project was able to share with the public the work implemented by the ITTO Project and on mangrove conservation.	21 <sup>st</sup> March, 2017	Project Coordinator, Jashika Lal	Local Hindi Radio Talk Back Show.
<b>International Day of Forests</b> - Theme “Forests & Energy”. An article on the ITTO Project was published in the local newspaper; Fiji Sun for awareness purposes to the public.	21 <sup>st</sup> March, 2017	Project Coordinator, Jashika Lal and Project Technical Officer, Poasa Tuimaba.	Display/Oral Presentation/ITTO Project Article Published in the Local Newspaper
<b>Agriculture Show</b> - Theme “Climate Smart Agriculture for Fiji”. The project had the opportunity to display the work being implemented in the Rewa Delta and this also served as an awareness of the project to the public.	21 <sup>st</sup> to 23 <sup>rd</sup> June 2017	Project Coordinator, Jashika Lal and Project Technical Officer, Poasa Tuimaba.	Display/Oral Presentation
<b>Vanuatu forestry Exchange Program</b> - ITTO Project was invited by SPREP to present on the work done in the Rewa Delta and was also part of the discussion on mangrove restoration approaches and techniques.	29 <sup>th</sup> October, 2019	Project Coordinator, Aporosa Ramulo	Presentation/Discussion
<b>Official Opening of the Two Nursery Distribution Centre</b> - Minister for Forestry, Hon. Osea Naiqamu officiated the opening of the Rewa and Tailevu Nursery distribution centres at Navakatawavanua, Burebasaga, Rewa & Vunivivi, Nausori.	22 <sup>nd</sup> March, 2020	Director Operation Central Eastern, George Vuki, ADOCE, Arieta Tupou and Project Coordinator, Aporosa Ramulo/ HQ Media Unit	The Official Fijian Government YouTube Channel <a href="https://www.youtube.com/watch?v=MVSDv_ibTq8">https://www.youtube.com/watch?v=MVSDv_ibTq8</a>
<b>Launching of the Narocake Brackishwater Shrimp Pond</b> The Permanent Secretary for Forestry Mr. Pene Baleinabuli officiated the launching of the first ever of its kind Brackishwater shrimp pond at Narocake village. The provisions of this alternative livelihood by the ITTO Project will provide an additional income for the community of Narocake and also minimize their dependence on their mangrove forest.	22 <sup>nd</sup> May, 2020	Director Operation Central Eastern, George Vuki, ADOCE, Arieta Tupou and Project Coordinator, Aporosa Ramulo	The article was published in the local newspaper (Fiji Times) and was also published in the Global Digital Newspaper and Magazine platform PressReader.com <a href="https://www.pressreader.com/fiji/the-fiji-times">https://www.pressreader.com/fiji/the-fiji-times</a>

<b>Agriculture Show</b> - Theme “Grow, Nourish, Sustain, Together”. The project had the opportunity to display the work being implemented in the Rewa Delta and this also served as an awareness of the project to the public.	28 <sup>th</sup> October, 2020	Project Coordinator, Aporosa Ramulo	Display/Oral Presentation
<b>Mangrove Project Empowers Communities, Supports Alternative Livelihood</b> - An article for the work done by the six ITTO Project sites. An article was published in the local newspaper (Fiji Sun) and the Ministry of Forestry website.	12 <sup>th</sup> December, 2020	HQ Media Unit/ Project Coordinator, Aporosa Ramulo	Ministry of Forestry’s Website <a href="https://www.forestry.gov.fj/presdetail.php?id=44">https://www.forestry.gov.fj/presdetail.php?id=44</a>
<b>National Youth Climate Action Summit</b> – The ITTO Project Coordinator had an opportunity to present to the youth of Fiji the work of the ITTO Project in the vulnerable mangrove forest of the Rewa Delta and its importance in mitigating Climate Change. An article was published on the Ministry of Forestry website.	16 <sup>th</sup> March, 2021	Project Coordinator, Aporosa Ramulo and HQ media unit	Display/Oral Presentation <a href="https://www.forestry.gov.fj/presdetail.php?id=58">https://www.forestry.gov.fj/presdetail.php?id=58</a>
<b>Restoring the Rewa Delta</b> - “Empowering coastal communities and women is essential for healthy, resilient and productive mangrove forest ecosystems in Fiji”. ITTO Japan requested an article on Community Based Restoration and Sustainable Management of Mangrove Forests in the Rewa Delta.	31 <sup>st</sup> March, 2021	Project Coordinator, Aporosa Ramulo, Conservator of Forest, Sanjana Lal and ITTO Project Manager, Dr. Hwan Ok Ma	An article was published in the Tropical Forest Update in the ITTO Website <a href="https://www.itto.int/direct/topics/topics_pdf_download/topics_id=6678&amp;no=1&amp;disp=inline#page=9">https://www.itto.int/direct/topics/topics_pdf_download/topics_id=6678&amp;no=1&amp;disp=inline#page=9</a>
<b>Parliamentary Progress Report</b> - The Hon. Prime Minister the Minister of Forestry informed the Parliament on the Community Based Restoration and Sustainable Management of Mangrove Forests in the Rewa Delta.	28 <sup>th</sup> September, 2021	HQ Media Unit	The Official Fijian Government YouTube Channel/Fiji TV <a href="https://www.youtube.com/watch?v=KtSTgXld Xg">https://www.youtube.com/watch?v=KtSTgXld Xg</a>
<b>International Seminar on “Protecting Coastal Areas with Forests: Toward the Development of Disaster Prevention and Mitigation Technology”</b> . The Project Coordinator was invited to be the presenter and part of the panel for this Seminar.	6 <sup>th</sup> January, 2022	Project Coordinator, Aporosa Ramulo.	The Abstract was submitted by the Project Coordinator. <a href="http://redd.ffpri.affrc.go.jp/event/seminars/2022/20220126_en.html">http://redd.ffpri.affrc.go.jp/event/seminars/2022/20220126_en.html</a>
<b>Mangrove Rehabilitation a Triple Win</b> - An article for the work done by the six ITTO Project sites. An article was published in the local newspaper (Fiji Sun) and the Ministry of Forestry website.	14 <sup>th</sup> February, 2022	HQ Media Unit/ Project Coordinator, Aporosa Ramulo	Ministry of Forestry’s Website <a href="https://www.forestry.gov.fj/presdetail.php?id=101">https://www.forestry.gov.fj/presdetail.php?id=101</a>

<p><b>Launching of the ITTO Mangrove Guideline &amp; Project Videos</b>  The Community Mangrove Management Guideline together with the three project videos was launched by the Prime Minister of Fiji and Minister of Forestry, the Honorable Mr. Josaia Voreqe Bainimarama and the Japanese Ambassador to Fiji H.E Mr. KAWAKAMI Fumihiro at the Grand Pacific Hotel, Suva, Fiji.</p>	<p>8<sup>th</sup> December 2022</p>	<p>HQ Media Unit/  Project Coordinator,  Aporosa Ramulo</p>	<p>International Tropical Timber Organization YouTube Channel</p> <p><a href="https://www.youtube.com/playlist?list=PL-8vSyKsrN_1zQelqX54lGTHeFKgOrj7b">https://www.youtube.com/playlist?list=PL-8vSyKsrN_1zQelqX54lGTHeFKgOrj7b</a></p> <p>The Official Fijian Government Facebook Page</p> <p><a href="https://m.facebook.com/story.php?story_fbid=pfbid07MKip38Pc3rEARyAYKumGoGCf5cQn4D6KtbUV9o8s7boRa5HuBSfSHAueX77STmKl&amp;id=100064626194509&amp;mbextid=Nif5oz">https://m.facebook.com/story.php?story_fbid=pfbid07MKip38Pc3rEARyAYKumGoGCf5cQn4D6KtbUV9o8s7boRa5HuBSfSHAueX77STmKl&amp;id=100064626194509&amp;mbextid=Nif5oz</a></p> <p>THE JET – Fiji’s First Community Newspaper</p> <p><a href="http://www.thejetnewspaper.com/fiji-adopts-mangrove-management-guideline-to-combat-climate-change-impacts/">http://www.thejetnewspaper.com/fiji-adopts-mangrove-management-guideline-to-combat-climate-change-impacts/</a></p>
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#### 4.1.2. OUTPUT 2

##### **DEGRADED COASTAL AND MANGROVE WETLAND REHABILITATED AND GUIDELINES FOR RESTORING DEGRADED COASTAL AND MANGROVE WETLANDS DEVELOPED.**

The objectives to rehabilitate and manage mangroves are not only to sustain and conserve but to ensure that marine resources are returned and proliferated to meet the daily needs of individual households for consumption and to raise income. Secondly, this mangrove restoration also focuses on ecological conservation that contributes to the protection of biodiversity that provides natural habitats to many wildlife existing in the area.

Capacity building and collaboration amongst stakeholders were necessary for the successful mangrove rehabilitation programme. So, in the course of the implementation of mangrove restoration activities, the local communities played an active role in implementing the programme and monitoring restored areas whereas the Project Management Unit coordinated and provided technical support.

The achievement of Output 2 played an important role in this project, given that the community was the main beneficiary of all project efforts. The main drive of this output is to enhance the mangrove restoration through a community-based approach that alleviates the adverse impacts of climate change and sea level rise affecting the country through the following activities:

##### **4.1.2.1. Activity 2.1. Community training on tree seed collection, nursery techniques and establishment of nurseries.**

Training on seed collection, nursery techniques and establishment and maintenance of nurseries were conducted in collaboration with the Ministry of Forestry's Silviculture Research and Extension Division. More than 200 community members who participated were awarded Certificates. Topics covered included; seed propagation, cultivation, sustainable forest management (SFM) and sustainable harvesting.

The Extension Division spearheaded the construction of six permanent nurseries, one for each village, to supply seedlings for the rehabilitation planting program. In addition, the project constructed two nursery distribution centres equipped with semi-auto sensor sprinklers for Rewa and Tailevu Province to cater for seedlings purchased from six communities for planting needs in the ITTO Project sites. The two nurseries have a capacity of 50,000 seedlings (Tailevu 20,000 and Rewa 30,000). These nurseries also play a major role in the tree planting target of 30 million trees for 15 year initiative, which was set by the Prime Minister and Minister of Forestry, the Honorable Mr. Voreqe Bainimarama, during the United Nations Head of State Climate Change Summit in New York in 2019 in its campaign to combat climate change.

A buyback system for sandalwood, native, and fruit tree seedlings from each village was established whereby communities were supplied with planter bags to grow seedlings in their village nurseries. Once old enough (above 30cm in height), the seedlings were bought back for restoration purposes. (Sandalwood -FJ \$5.00, Fruit Trees -FJ \$3.00, and Native Trees-FJ \$1.00).

The buyback scheme had been complemented with training on sustainable growing practices and the distribution of crops seedlings and vegetable seeds by the Ministry of Agriculture which were grown in home gardens for own use or for sale on the local market. Local nursery attendants were also contracted to work in the village nurseries and paid an allowance. While the allowance was only a small percentage of their earnings, they were welcomed by the local community as a very useful supplemental income.

#### 4.1.2.2 Activity 2.2. Conduct community training on planting of seedlings

The Ministry of Forestry's Management Services Division implemented this activity on community land, with mapping exercises conducted to identify areas to be planted with species where native trees used to grow and on damaged coastal mangrove wetlands. Trees planted in the identified areas included:

- **Native Species** – Vesi (*Intsia bijuga*), Dakua Makadre (*Agathis macrophylla*), Dakua Salusalu (*Retrophyllum vitiensis*), Marasa (*Storckiella vitiensis*), Sandalwood (*Santalum yasi*), Vesiwai (*Millettia pinnata*)
- **Fruit Trees** – Breadfruit (*Artocarpus altilis*), Kumquat (*Citrus japonica*), Soursop (*Annona muricata*), Hybrid Quava (*Psidium guajava*), Avocado (*Persea americana*), Dawa, (*Pometia pinnatae*) Kavika (*Syzygium malaccense*), Kura (*Morinda citrifolia*), Ivi (*Inocarpus fagifer*) lemon species like Moli Karo (*Citrus hystrix*) and Lime (*Citrus aurantiifolia*)
- **Coastal Species** - Tavola (*Terminalia catappa*) Vutu (*Barringtonia eduli*) Dilo (*Calophyllum inophyllum*), Coconut (*Cocos nucifera*) Dabi (*Xylocarpus granatum*) Mangrove (*Rhizophorasamoensis*, *R. stylosa*, *R. x selala*, *Bruguiera gymnorrhiza*.)

Mixed species planting was the mode of rehabilitation that is vital in creating a robust and more natural self-regenerating forest that will increase mangrove cover and carbon stocks. The planting of native trees is being undertaken to minimise soil erosion and land degradation while the planting of mangroves is part of ongoing adaptation initiatives against the continuous rise in sea level. Further, an equitable representation promoted across gender especially women among the project beneficiaries, resulted in the planting of 5,000 mangrove propagules and 200 native trees by the Nasilai women group to restore degraded sites. Mangroves were replanted on river banks, mudflats, and degraded areas where mangroves used to propagate and choosing the right mangrove species was crucial for the successful replanting programme.

ITTO Project also facilitated the planting of mangroves with NGOs, schools, Government ministries, Private sectors, and other organisations in other areas of the Rewa Delta such as at Tikram Park foreshore in Lami, Nasese foreshore in Suva and thirty other villages in the Rewa Province. The source of mangrove propagules planted in these areas was purchased from the six ITTO Project sites which were an additional source of income for the six rural communities.

The following Government ministries and organisations were involved in the mangrove restoration in Nasese and Tikaram Park facilitated by ITTO from 2017 to 2022; Ministry of Education, Ministry of Infrastructure, Ministry of Health, Ministry of Lands, Ministry of i-Taukei Affairs, Republic of Fiji Military Forces, Fijian Election Office, Crusaders Rugby Team from New Zealand, WWF Volunteers, University of the South Pacific, Fiji Airways (Suva Branch), Soroptimist International, Fiji Sports Council, Indian High Commission, Pacific Conference of Churches, Total (Fiji), Swire Shipping (Suva Branch), Japanese Navy, Little Champs Educare (Early Childhood Education) and British Embassy led by the British Ambassador.

ITTO Project restored **137.25 hectares** of degraded areas and destroyed mangrove forests. To achieve this effort, **457,250 mangrove seedlings** were collected and replanted. The six project sites also restored **13.15 hectares** of degraded land around their villages by planting **5,580 seedlings** of native, fruit and other coastal trees. Additionally, a fuelwood tree planting campaign was conducted in 19 villages of the Rewa Delta from 29<sup>th</sup> of March to 3<sup>rd</sup> of April, 2022 in which a total of 900 fuel wood trees were planted.

#### **4.1.2.3. Activity 2.3. Training workshop to assist communities to formulate community policy, and laws to maintain, monitor, and ensure survival of planted trees.**

Restoring mangroves on the coastal and mangrove wetlands in the six villages was carried out with the full support and participation of all community members. Follow-up care is essential for mangrove plantation success, therefore, community members especially women, monitored the progress of propagules by removing plastic, rubbish and barnacles which are a significant cause of mortality to seedlings. Monitoring was carried out once a month to reduce potential problems and to conduct early corrections that might impact the project's success.

Mangroves and other trees replanted experienced a 75-80% survival rate as monitoring and survival assessment were conducted consistently. Monitoring of the restored areas considerably increased the awareness and acceptance of the project within the local communities and built up capacities that empower people to independently manage and conserve an important part of their livelihoods. The survival assessment training was conducted and all the seedlings planted at the six ITTO Project sites had been assessed. The training and demonstration for the survival assessment were carried out in the field.

#### **4.1.2.4 Activity 2.4. Guidelines for wetland restoration developed.**

This activity is in line with Activity 4.4. One of the outcomes of the 2<sup>nd</sup> Project Steering Committee Meeting was for the project to work in collaboration with the Secretariat of Pacific Community (SPC) to develop a Community Mangrove Management Guideline that would be kept as an achievement for the project, instead of developing a guidebook for wetland restoration. Therefore for Activity 2.4, instead of developing a mangrove guidebook, the project utilised desk literature on existing policies related to mangrove restoration in Fiji, the Pacific, and international wide as well as learning from first-hand experiences of NGOs and environmental groups that are involved in mangrove rehabilitation within Fiji.

As such, the project team invited a Japanese environmental group, the Organization for Industrial, Spiritual, and Cultural Advancement (OISCA) to share their experience with the six communities on how to plant and conserve mangroves as they have been involved in the successful mangrove rehabilitation of the Coral Coast of Sigatoka in the province of Nadroga and at the Nakorotubu coastal area in the Ra Province. They were invited to share some of their success stories which could be replicated in the Rewa Delta. Secondly, the Project Work plan stated that for this particular activity, the project reviewed the Philippine Mangrove Handbook (Philippine Mangrove Education Kit) written by Jens Marquardt and Malcolm Trevena (2009), and plausibly applied it to the Fijian local context in regards to mangrove restoration. To ensure that mangrove restoration will not fail, the Project team also adopted the rehabilitation method as mentioned in the *Vulnerability of Fiji's Mangroves and associated coral reefs to climate change: A review* by Ellison and Fiu (2010), assuring high survival rate.

In addition, a presentation by ITTO Secretariat, Dr. Hwan-Ok Ma during the 3<sup>rd</sup> PSC meeting, on the Matang case studies (Sustainable Forest Management for Matang Mangrove Forest Reserves, in Malaysia. By: Dr. Hizamri Yasin & Roslan Ariffin) was taken into consideration for Activity 2.4, as information from the case studies is useful to resource users at the provincial level and down to the community level. The experience shared by OISCA (Japan) and presentation by the ITTO Secretariat assisted the project team to carry out the restoration programme to the best of its resources and abilities.



### 4.1.3. OUTPUT 3.

#### **MAINTAIN AND ENHANCE TRADITIONAL KNOWLEDGE AND SKILLS THAT WILL ENABLE COMMUNITIES TO VALUE AND SUSTAIN RESOURCE UTILIZATION.**

The activities under component 3 have been incorporated with the training undertaken in component 1. The findings have been captured in the Community Management Action Plan.

##### **4.1.3.1. Activity 3.1. Collate traditional knowledge and document skill sets needed for harvest and preservation of key food/timber sources from coastal and wetland mangrove systems.**

This activity ran in conjunction with Activity 2.2 and 2.3. In the management of the Delta mangrove forest, the Project opted to work through traditional channels, drawing from and bolstering local customs. The Project staff are proficient with the traditional protocol mandatory when working with the rural *i-Taukei* communities. Land ownership is based on traditional clan (*mataqali*) land management authority, whereby each clan has the right to decide how their land is used. The *i-taukei* traditional rights of land ownership, traditional systems, and local customs are the cornerstones of both habitat reforestation and mangrove forest restoration as explained below.

- 1) Based on traditional clan land management authority the Ministry of Forestry and ITTO project would like to acknowledge the paramount chief of Rewa the Gone Marama Bale na Roko Tui Dreketi in providing a site for the Rewa Nursery Distribution Centre; as well as the Komaivunivi, Turaga na Ratu for the provision of land in Vunivi for the Tailevu Nursery Distribution Centre.
- 2) One of the factors that led to the success of restoration in the Rewa Delta was the *i-Taukei* traditional custom of '*solesolevaki*' or community collaboration whereby people work together to help each other and the workload is shared and carried out collectively in an environment filled with unity. The main aim of the "*solesolevaki*" is to achieve greater things that could not be achieved by any one person alone and also to achieve more collectively in a short period. *Solesolevaki* was demonstrated in the construction of temporary traditional nurseries using local resources before permanent ones were built as well as in the planting of mangroves where all members of the communities participated in the restoration programme.
- 3) As for traditional knowledge and local skills, efforts were made to strengthen traditional cultural practices of women to contribute more to resource management such as traditional handicrafts and traditional mat weaving. This resulted in the planting of more *voivoi* (*pandanus caricosus*) to weave mats and mulberry trees (*Broussonetia papyrifera*) to create *masi* cloth (Tapa cloth) as part of the reforestation plan. In the Rewa Province, *masi* cloth is used for traditional marriage, birth and death rites, and ceremonies of welcome. *Masi* (Tapa) is a highly valued cloth and is made to order by village women. The dye for *masi* cloth is from mangrove bark and carbon from burnt charcoal. This initiative has given women the opportunity to utilize their spare time gainfully to generate income for their families as well as to gain personal empowerment.
- 4) Mud crabs (*qari*), and mud lobsters (*mana*) are important, as they are the main sources of income but most of all usually served during important traditional occasions or to be served to important visitors, especially government representatives. Villagers use traditional snares and techniques to catch mud lobsters and mud crabs within mangroves. These have been part of their lives since

childhood, learning at an early age from parents and elders as they grow amongst the mangroves. Lessons learned from parents and elders are traditional knowledge that has been passed down from one generation to another for survival and to take care of the mangrove habitat that provides for the family. Reading *qari* tracks in the mud and where they would be hiding and how to take them out of their hiding places is part of the learning. As for sustainable fishing, a mangrove stick is used to pry the *qari* out of their hole with care so as not to damage the crab shelter. If the crab is small it is not harvested so that it can reach maturity and reproduce. In addition, rubbish is not thrown into the mangroves as they are habitats for fish, mud lobsters and mud crabs which are sources of livelihood.

- 5) A traditional customary rule applied in this community is known as '*taboo*', that is, a section of mangroves is reserved as a '*taboo*' areas (traditional protected areas) where no individual is allowed to remove and collect firewood or even enter the specified protected area. The agreement is made in a village meeting and everyone is to abide by the traditional taboo. The aims of '*taboo*' are to protect the mangrove forest from loss and destruction through anthropogenetic use, protect biodiversity and protect or increase fish stocks as well as improve the health of the mangrove forests. '*Taboo*' assists the coastal villages to assert control over their mangrove resources and also assists them to meet the challenges of climate change.
- 6) Giant swamp taro (*cyrtospema chamissonis*) and duruka (*saccharum edule*), were restored in the freshwater swamp land at the back of the mangrove for food security and for the future generation. Giant swamp taros (*cyrtospema chamissonis*) are preserved and normally consumed after a tropical cyclone as they are resilient compared to other root crops and fruit trees which are easily ruined by strong winds and floods.

#### **4.1.3.2 Activity 3.2. Conduct community training to disseminate and build capacity for uptake of knowledge and skills gathered.**

For this activity, it had been incorporated with the training undertaken in component 1. The findings have been captured in the Community Management Action Plan.

#### **4.1.3.3. Activity 3.3. Publish for wider dissemination of information gathered from Activity 3.1.**

This was an ongoing activity upon completion of activity 3.1 and was also incorporated with Activity 1.4 of Output 1. The catching of mud lobsters using traditional skills and traditional snares was demonstrated in the video that shows the mangrove restoration in the Rewa Delta.

#### **4.1.4. OUTPUT 4**

##### **FRAMEWORK TO SUPPORT EXISTING MANGROVE POLICY AND LEGISLATION**

The establishment of support for the "Community Based" project included engagement from all tiers such as the community level, provincial and national levels. At the national level, the project demonstrated sustainable policy programs and activities that could be amplified in other river systems and communities that live in coastal and mangrove areas. The national policy on "Mangrove Management Plan - 2013" abetted the establishment of the "Community based Mangrove Guideline" for coastal communities not only in the Rewa Delta but in Fiji and the Pacific. This achievement was pursued with various activities conducted as follows:

#### **4.1.4.1 Activity 4.1. Consultative workshop to identify levels of coordination, collaboration, and networking among key institutions – and collate key issues on coastal and mangrove wetlands.**

The Project Inception Workshop was held on Thursday, 18th June 2015 at Novotel Hotel, Lami Bay. The purpose of the workshop was to inform all stakeholders and key institutions of the objective of the project and their views on how best the project could be implemented. Stakeholders at the local community level were also present as they would be involved during the implementation. This workshop generated a new level of coordination, collaboration, and networking among key institutions which not only ensured that input and consensus were sought from various sectors, but also gave the project and its objective a high level of positive impact that showcased the restoration efforts that were visible in the six demonstration sites.

Coordination and collaboration amongst key stakeholders were also evident during the consultative community awareness workshop in 2016 and 2017, as communities were enlightened on the roles each institution played in the regulation and protection of mangroves. For instance, the Department of Lands has regulatory jurisdiction over all State land in Fiji and the foreshore including mangroves on all land below the mean high water mark fall into this category. The Forestry Department is responsible for the protection of mangroves through forest reserves as well as the issuing and regulating licenses for the commercial felling of mangroves for firewood or timber via the Forestry Act. The Fisheries Department is responsible for issuing licenses to fish in coastal waters and mangrove wetland areas via the Fisheries Act (1991). The Department of Environment (DoE) through the Environment Management Act (Government of Fiji 2005) has the responsibility and duty to protect mangroves and associated biodiversity which is exercised through the assessment of the environmental impact of all proposed foreshore developments.

The Ministry of Environment coordinate also internally with other government agencies. It works very closely with the Ministry of iTaukei Affairs, the Conservation Officers, the Lands Department, and the Ministry of Forestry because they have officers on the ground to report on anything that they see as a problem and respond immediately so that DoE could contain and mitigate any negative environmental impacts. For any complaint that has an immediate threat to the environment that is received from the outer island that includes illegal harvesting and destruction of mangroves, DoE works very closely with the Ministry of iTaukei Affairs' conservation officers.

Coordination and networking among key institutions were further demonstrated in the Community Outreach and Awareness Programme conducted from 4<sup>th</sup> to 14<sup>th</sup> of April, 2022 in 33 villages from the Rewa Province within the project sites that are normally involved in illegal extraction of mangroves but are not directly involved with the project. The programme was conducted in collaboration with the Ministry of Lands, Environment, Agriculture, Fisheries, Provincial Office, the Police Department and Conservation International. Objectives of the two-week consultation were accomplished as villages were: (i). informed, educated, and advised on their roles in the management of mangroves, raising awareness on the mangrove restored sites that need to be protected, and establishing extended planting of fast-growing fuelwood trees to minimise the dependence on mangrove forests for fuelwood (ii). advised on policy for non-issuing of license by the government to harvest mangroves, implications of illegal harvesting, and alternatives to mangroves (iii). discussed the impacts of the overuse of mangroves for subsistence purposes, blue carbon trading and alternative livelihood option, and (iv). progressed the work on the revival of the Yaubula Management Support Team (Natural Resource Committee) in each village for the protection of mangroves and natural resources.

#### **4.1.4.2. Activity 4.2. Undertake a cost-benefit study on the extent of illegal trade in fuel wood sourced from coastal and mangrove forests and make recommendations aligned to National Forest Policy 2007.**

For this activity there were two options considered for a cost-benefit study on the extent of illegal trade in fuel wood sourced from coastal and mangrove forests:

1. to place a moratorium on mangrove harvesting or
2. to rehabilitate mangroves and improve monitoring and surveillance or
3. both (1 and 2 above) as explained below:

##### **Option 1: Place a moratorium on mangrove harvesting.**

After seven years of ITTO Project operation in the Rewa Delta, it is evident that educating the public to take mangrove conservation and biodiversity issues seriously has a positive impact on the mindset of the coastal communities to ban the illegal commercial harvesting of mangroves and reduce the over subsistence use. During this seven-year project period, communities have been regularly informed that even though licenses are not issued, however, the proceeds that illegal loggers gain from the demand for mangroves as one of the best wood resources for firewood in the urban market are still inciting some members of the community to collude to earn additional income and therefore must be stopped. Secondly, even with the knowledge that illegal harvesting is occurring members of the community turn a blind eye and never bother to report matters to the police or inform the Ministry of Forestry and such an attitude would only encourage illegal loggers to continue doing what they think is right which contradict the purpose of the ITTO project.

Additionally, communities were always reminded that the protection and conservation of mangroves are paramount for future generations in the face of climate change and sea level rise; therefore, should not be deceived by illegal harvesters as the money received is trivial compared to what they could have earned from selling mangrove resources: fish, crabs and mud lobsters. Likewise, the short-term gain from selling mangroves is so low that it could not offset the costly devastating long-term environmental impacts of illegal harvesting. To make things even worse mangroves which is a long-term protective asset for the coastal communities for many generations and have taken several years to grow are sold at a very cheaper price compared to other sources of energy for cooking. And as such, communities were always reminded to remember that those who are destroying these cyclone protective assets for short-term gain do not reside within their vicinity and therefore do not feel the brunt of storm surges during tropical cyclones as well as the long-term negative impacts on the loss of mangrove resources which they depended on for daily sustenance.

##### **Cost-benefit analysis of placing a moratorium on mangrove harvesting.**

Illegal harvesting of mangroves only brings benefits to a few corrupt traders, without any additional benefits for coastal communities. The benefit of illegal cutting of mangroves is lower due to its negative environmental impacts compared to the economic value of mangrove resources available to communities in abundance when mangrove forests are restored and conserved sustainably.

Due to selfish motives and goals for short-term benefits, mangroves have been over-exploited for private economic purposes. Such decisions only benefit certain stakeholders, but do not sustain more equitable long-term economic, environmental, and social development and resilience in the face of climate change.

Likewise, the lower returns from mangrove harvesting in the last few years also explain why benefits from commercial harvesting of mangroves are much lower than those from mangrove conservation as present trends in cutting mangroves leads to soil erosion, loss of mangrove forest, increase in carbon in the atmosphere and loss of biodiversity. These combined with the projected high risks of future climate change impacts will only mean that illegal and commercial harvesting of mangroves in the Rewa Delta is projected to worsen as a development option.

In 2019, the ITTO Project Coordinator represented the Ministry of Forestry as a field team member on a project initiated by Conservation International (CI) and the Department of Foreign Affairs and Trade (DFAT) from the Australian Federal Government. Part of the project field survey, which focused on the first phase of blue carbon assessment, was conducted in Rewa and Tailevu provinces of south-eastern Viti Levu which encompass the Rewa Delta. From the sites assessed (Rewa Hinterland and Rewa Coastal forest) impacts on mangrove forest structure were visible, in relation to selective harvesting being practiced, with mangroves extracted for the sole use as fuelwood and timber. Selective harvesting is a management practice whereby only a specified number of trees from a given stand are removed, leaving other trees standing. This serves to maintain the integrity of a forest's overall coverage.

In the selectively harvested Rewa forests assessed in this study (Rewa Hinterland and Rewa Coastal forest), the low harvesting pressure and the ratio of stumps to living trees (7.8% and 2.9% of trees extracted per ha<sup>-1</sup> and 0.0078:1 and 0.0014:1 of stumps to trees for Rewa Hinterland and Rewa Coastal forest) is lower than mean harvesting rates of 7–50% observed from small-scale harvesting of mangroves in Madagascar, the Philippines, Timor-Leste, Venezuela and South Africa (Cameron, et al., 2021). The data also showed that while there is some extractive harvesting pressure within Rewa, it is small scale and localized in extent. This may be largely due to the positive impacts of the ITTO community awareness programme and mangrove management within the Rewa Delta regulated through a moratorium enacted in 2015 which prohibits commercial logging but only allows for subsistence extraction by local communities.

## **Option 2: Mangrove rehabilitation and improve monitoring and surveillance.**

The total cost of rehabilitation includes the restoration cost and costs for the maintenance and protection of the mangrove. The maintenance costs include protection and re-planting of areas of the mangrove which have died or been degraded. However, when the project ends the protection activity will be assigned to villagers of the six communities.

## **Cost-benefit analysis of mangrove rehabilitation and improved monitoring and surveillance.**

Besides the high economic value of mangrove restoration investment, mangrove restoration is more equitable, with better social welfare for coastal communities, than cutting mangroves for sale which benefits only a few, when a license is issued. Mangrove restoration provides ecosystem services for the whole community and beyond, such as shoreline stabilisation and biodiversity protection. Mangrove restoration should also be prioritised because it is a mitigation measure for addressing climate change, with mangroves acting as carbon sinks.

Destruction of mangrove forests and its consequences, impacts of climate change, and the role of mangroves in terms of supporting adaptation to climate change were explained to the communities. Informing them about the potential climate change-related benefits of restoring the mangroves has roused their willingness to participate in the restoration and conservation.

Mangroves in the Rewa Delta play a very important role in providing economic and environmental support for local communities. They are well aware of the role that the mangrove plays in their lives and its importance for future generations. The mangrove in the Rewa Delta provides the main source of income for a large proportion of the population, both in direct ways (selling fish, mud crabs and mud lobsters) and indirect ways (such as nutrient retention, flood control, and storm protection). There are always positive benefits that are derived from restoring a specific mangrove forest area such as improved productivity levels in fisheries production, an increased supply of clean water, and improved health and environmental quality.

Investment in mangrove restoration generates higher benefits in the long term than selective cutting of mangrove trees. With increases in the frequency and intensity of tropical cyclones, storm surges, floods, and sea-level rise expected in the future, mangroves are the best nature-based solution which is likely to make an even bigger contribution as a mitigation solution to deal with climate change impacts.

Monitoring and surveillance play a vital role in the protection of mangroves. Although mangrove forests in Fiji are legally protected, low awareness among local communities and local law enforcement officers commonly results in poor law enforcement with regard to encroachments. Sensitization of local communities and law enforcement agencies is thus important to encourage collective action of the civil society for mangrove protection, and this was conducted during the course of the project.

The field survey study conducted by Conservation International and the Australian Government - Department of Foreign Affairs and Trade (DFAT) in the Rewa Delta in 2019, witnessed by the ITTO project coordinator, showed that governance decentralization and community management improve mangrove conditions when strong community institutions are present to enforce common rules of natural resource management. Initial results from Rewa, particularly from Rewa Coastal forest, supported these findings, with mangrove utility regulated and enforced most strongly at the community level.

#### **4.1.4.3 Activity 4.3. Assessment of fuel wood licensing system to identify challenges and status of illegal sale of fuel wood; make recommendations for future management based on cost- benefit analysis.**

For this activity the DOCE presented on harvesting licensing procedures and provided insights on the content of the Fiji Forest Harvesting Code of Practice during the Project Inception Workshop held on 18th June, 2015 at Novotel Hotel, Lami Bay, as well in the Community Training and Awareness Workshop conducted in the six project sites in 2016 and 2017.

According to DOCE, the issuance of mangrove licences is carried out by the Department of Forests on the recommendations of the Ministry of Lands for two purposes only [cremation and fire walking] but some licensees harvested more than the required volume as they also supplied wood to construction companies as tom posts for building. Harvesters in their application for consent have to agree that they will harvest sustainably but as licence is used for commercial purposes harvesting will not be sustainable, so a quota is normally established. Then, the Ministry of Forestry assessed as harvesters could lie about the volume of mangrove harvested. Anyone caught doing so would be committing a crime and be charged with the offence, while those harvesting without a licence would be charged according to the amount of mangrove cuttings found in their possession.

Concerned about the negative impacts of mangrove harvesting, the province of Rewa requested the Ministry of Forestry to stop issuing licences. Rewa used to have the highest number of mangrove licences issued in Fiji. However, in 2015, the Ministry of Forestry issued licence in the province of Naitasiri and Serua but not in Rewa as most communities relied on mangrove forests for their livelihood and they were concerned that its harvest was causing the decline in the number of mud crabs and fish.

The people of Rewa complained that fish and crabs breed in those mangroves and it was slow to grow back. In addition, instead of mangroves growing back quickly replacing ones cut, it had been noted that the harvesting rate was much faster than the rate at which they grow. Even large areas of fully grown and matured mangrove trees that acted as buffers from tidal and storm surges were removed very rapidly, which would take so many years to re-grow into their original natural habitat.

In 2015, concerns were raised in the Village Consultation Meeting held at the Commissioner Central's Eastern Office, Nausori, regarding the illegal selling of mangroves at the Laqere market and other Service Stations. This issue raised a lot of concern to the Rewa and Tailevu Provincial community as the Ministry of Forestry is trying to conserve mangroves all over Fiji but on the other hand, some are still selling mangroves illegally. It was then agreed that the Ministry of Forestry and Ministry of Lands worked together with other stakeholders such as the Mangrove Management Technical Committee to combat such issues.

Recognizing the importance of mangroves for climate change mitigation and adaption as well as the potential of blue carbon projects to support the management of mangroves, the Fijian Government has identified the need to reverse ongoing mangrove losses, conserve and sustainably manage mangroves, and account for the ecosystem service values of mangroves in national climate strategies and mechanisms (MoE 2018).

In regards to the above concern, the issuing of mangrove harvesting licences ceased across the board all over Fiji since 2017 as the government was incentivised to give full support to mangrove restoration in the Rewa Delta and other parts of Fiji to cushion sea level rise and climate change impacts. This led to the commercial mangrove timber harvesting phased out in line with the National Forestry Policy, 2007. The Government intervention plan to stop the issuing of mangrove licence was a huge relief to the Ministry of Forestry (Executing Agency) especially in conducting its role in combatting illegal cutting of mangroves.

In 2021, during the presentation of the ITTO Funded Rewa Delta Project in Parliament by the Prime Minister of Fiji and Minister of Forestry, the Honorable Mr. Voreqe Bainimarama; a member of the Opposition raised the issue of illegal selling of mangroves. The Prime Minister replied that mangrove licences are no longer issued for commercial harvesting and anyone found selling mangrove is to be reported to the Police. Likewise, the Ministry of Forestry is monitoring the illegal harvesting of mangroves around the country and it is the responsibility of every citizen to report any illegal sales of mangroves immediately if occurring.

#### **4.1.4.4. Activity 4.4 Develop, advocate and streamline the approval of a Code of Conduct for Sustainable Management of Mangrove Ecosystems through relevant Government Agencies**

For this activity, an innovative initiative of the ITTO Project was to develop a Community based Mangrove Management Guideline. This guideline is developed as a technical report to support relevant communities to better manage their mangroves. The Guideline was made possible through the ITTO project collaboration between Fiji's Ministry of Forestry, Conservation International, the Institute of Applied Sciences (IAS) of the University of the South Pacific (USP) and the Land Resource Division (LRD) of the Pacific Community (SPC).

The first workshop for this Guideline was held at River House Nausori on 1<sup>st</sup> February, 2018 coordinated by SPC and facilitated by the Ministry of Forestry. 24 participants attended, comprised of 17 representatives from the six villages of the project site; 4 members from SPC including a consultant and 3 officers from MoF (DO Central Eastern, ITTO Project Coordinator and Technical Assistant)

As this is a village-based Mangrove Management Guideline, it was recommended that the communities should be involved in the initial stages to the last stage of the development process. As traditional custodians, they have an important role to play in safeguarding these resources for the long-term welfare of future generations. Therefore, the project encouraged the communities to present their views and opinions to the draft copy which would later be captured in the final Guideline.

The management guideline is aligned with the 2007 National Forest Policy, which aims at introducing an effective mangrove management framework for the Rewa Delta with the specific objective of establishing demonstration sites that will showcase community-based management activities for biodiversity conservation and provide alternative livelihoods to ensure improved human wellbeing. Since mangroves are owned by the State and are accessible to the public, the i-Taukei village communities (villagers), living next to these mangroves, have no legal control over who removes and cuts down the mangrove trees. Therefore, the Mangrove Management Guideline is to reduce illegal commercial harvesting in these communities as they are dependent on mangrove forests for their livelihood.

Communities have developed a close relationship with the adjacent mangroves close to their villagers and have, over the years, largely provided conservative custodianship over the resource. Today, they provide the only mangrove monitoring agency and are the only 'ears and eyes' on the ground. In effect, the government, the resource owner, is completely reliant on this free service. So, the Mangrove Management Guideline empowers the community to be the custodian of the mangrove forests that belongs to the government and they work closely with the forestry department.

It is expected that village communities located across Fiji's mangrove areas could consider, adapt and use this Guideline for proper management of their mangrove resources. The guideline for the community management of mangroves aims to promote and support the direct involvement of local mangrove communities as co-managers in the management and protection of mangroves adjacent to their villages.

The Community-based Management Guideline for Mangrove Rehabilitation and Restoration in Fiji was launched at the Grand Pacific Hotel on Thursday, 8<sup>th</sup> of December, 2022 by the Prime Minister of Fiji and Minister of Forestry, the Honorable Mr. Josaia Voreqe Bainimarama and the Japanese Ambassador in Fiji, H. E. Mr. Kawakami Fumihiko.



#### 4.2. Existing situation at project completion versus pre-project

The achievement of project realization compares to the existing situation before project's implementation as shown and explained in the table below:

**Table 8. Project Objectives and Output Achievement**

Objectives, Output and Related Activities	Indicator/Outcome (Project Document)	Achievement (Project Realisation)
<p><b>Development objective</b></p> <p>To introduce an effective mangrove regulatory and management framework for coastal and mangrove wetlands in Fiji</p>	<ul style="list-style-type: none"> <li>- Effective regulatory framework is put in place at the National level.</li> <li>- Community based management frameworks successfully implemented aligned to national policies and regulations on coastal and wetland mangroves.</li> </ul>	<ul style="list-style-type: none"> <li>- Mechanism and system for “Community-based Restoration and Sustainable Management of Vulnerable Forests in the Rewa Delta” had been established and successfully implemented from 2015 to 2022 in line with Government Policy Statements and commitments.</li> <li>- Community buy-in for community leaders and members of the six chosen communities to support field demonstration was successful.</li> <li>- Extension of mangrove rehabilitation by the project to other coastal and mangrove wetlands in Fiji was conducted in other villages in the Rewa province, Nasese and Lami Foreshore.</li> </ul>
<p><b>Specific objective</b></p> <p>To establish demonstration sites that will showcase effective policy programs and activities.</p>	<ul style="list-style-type: none"> <li>- By the end of 3<sup>rd</sup> year, 100ha of degraded wetlands reforested.</li> <li>- Identified livelihood options for communities are adopted and implemented by the end of 2<sup>nd</sup> year.</li> </ul>	<ul style="list-style-type: none"> <li>- At the end of the project period, more than 100ha of degraded wetlands were reforested.</li> <li>- Local communities collaborated on reforestation initiatives.</li> <li>- At the end of the project, various alternative livelihood options were established in the six project sites.</li> <li>- Community Mangrove Guideline for coastal communities in the Rewa Delta developed and published.</li> </ul>

		- Mangrove restoration benefits: Carbon stocks, storm protection, enhanced production of fish, crab and mud lobsters and sustainable supply of fuel wood.
<b>Output 1. Local communities trained and empowered to implement activities linking livelihoods improvement to reduce overdependence on coastal and mangrove wetland resources</b>		
<b>Objectives, Output and Related Activities</b>	<b>Indicator/Outcome (Project Document)</b>	<b>Achievement (Project Realisation)</b>
<b>Activity 1.1</b> Community workshops on the importance of coastal and mangrove wetland.	By the end of the first year, at least 4 communities become better informed of the importance of coastal and mangrove wetlands.	- Project organized an introductory visit that began in February, 2016 to the six villages of the project site to advise them on the commencement of the project. - Workshops were conducted in six communities, commenced on February 15, 2016 and ended on March 21, 2017. - Members become better informed on the importance of coastal and mangrove wetlands. - The total number of participants who attended this workshop was 192 which included both men and women.
<b>Activity 1.2</b> Community training - PLA workshop to assist communities to assess their own situation and identify the best and most appropriate alternative source of livelihood to adopt.	By the end of the first year, at least 4 local communities are guided to make informed decisions on the most suitable alternative livelihood option for adoption.	- Six communities involved in the workshop conducted on Participatory Learning Appraisals (PLA) such as: • Transect Analysis • Resource Mapping and • Stakeholders Analysis to assist communities to assess their own situation and identify the best and most appropriate alternative source of livelihood • Community Management Action Plan developed • More than 200 persons attended the workshop - Workshops reached all communities in chosen communities.
<b>Activity 1.3</b> Training workshops to assist local communities to adopt and implement identified livelihood options.	By the end of the third year, at least 4 communities have adopted and implemented livelihood options.	- Six Communities trained on alternative livelihood options. - More than 300 persons attended the workshop - Livelihoods adopted and implemented in each village of the six project sites: • Village Nursery and tree planting - All six villages

		<ul style="list-style-type: none"> <li>• Cash cropping &amp; Home Gardening - All six villages</li> <li>• Sewing Machine training - All six villages</li> <li>• Provision of sewing machines - All six villages</li> <li>• Business Training - All six villages</li> <li>• Brackish Water Shrimp Farming - Narocake, Natila, Waicoka, and Naivakacau village.</li> <li>• Piggery Farming - Nasilai village.</li> <li>• Apiculture/Bee Farming - Muanaira village.</li> </ul>
<p><b>Activity 1.4.</b></p> <p>Organize media programs for public education</p>	<p>Results and lessons learnt in the project will be disseminated through Media program, Guidelines and Scientific publications made in journals.</p>	<ul style="list-style-type: none"> <li>- Publication materials produced and printed by the project have been distributed and disseminated through events held in the nation and international wide. Establish media programs for public education on the importance of coastal and mangrove wetlands</li> <li>- Community based mangrove restoration video produced for public awareness was launched at the Grand Pacific Hotel on Thursday, 8<sup>th</sup> of December, 2022 by the Prime Minister of Fiji and Minister of Forestry, the Honorable Mr. Josaia Voreqe Bainimarama and the Japanese Ambassador in Fiji, H. E. Mr. KAWAKAMI Fumihito.</li> </ul>
<p><b>Output 2. Degraded and deforested coastal mangrove wetlands are rehabilitated through afforestation and reforestation using appropriate native species.</b></p>		
<p><b>Objectives, Output and Related Activities</b></p>	<p><b>Indicator/Outcome (Project Document)</b></p>	<p><b>Achievement (Project Realisation)</b></p>
<p><b>Activity 2.1</b></p> <p>Community training on tree seed collection, nursery techniques and establishment of nursery</p>	<p>By the end of the first year, at least 4 training workshops conducted to build the capacity of communities in the establishment of plant nursery</p>	<ul style="list-style-type: none"> <li>- Conducted 6 training workshops in collaboration with Silviculture Research and Extension Division. More than 200 community members participated were awarded Certificates of Participation after the 5-day of training.</li> <li>- Construction of six nurseries, one in each village. Construction of two nursery distribution centres for Rewa</li> </ul>

		and Tailevu Province. The two-nursery distribution centres are equipped with semi-auto sensor sprinklers.
<p><b>Activity 2.2</b></p> <p>Community training for the planting of seedlings and rehabilitation of degraded and deforested coastal and mangrove wetlands.</p>	<p>By the end of the first year, 30 individuals are trained on species identification, seed collection and nursery techniques for raising native species.</p> <p>By the end of the third year, 100ha of deforested wetlands rehabilitated</p>	<ul style="list-style-type: none"> <li>- Conducted 6 training workshops in collaboration with the Management Services Division of the Forestry Department.</li> <li>- More than 200 community members participated.</li> <li>- Mixed species planting was the mode of rehabilitation.</li> <li>- <b>Restored 137.25 hectares (457,450 mangrove seedlings)</b></li> <li>- <b>Restored 13.15 hectares (5,580 seedlings of native, fruit and coastal trees and a total of 900 fuel wood trees were planted.)</b></li> <li>- Restored mangrove has greatly improved both in quality and quantity.</li> <li>- Mangroves have changed the coastal environment from barren mudflats to a regenerating multi-use forest.</li> <li>- 241 households from the six communities benefit from increasing marine life in the restored mangrove areas: fish, crabs and mud lobsters. For instance, <i>Yawa</i> (milk fish) a fish that is not frequently seen in their area has now been found feeding in their mangrove area in large quantities. Also, the number of <i>Damu</i> (mangrove red snapper) and <i>Busa</i> (<i>Hemiramphus cmmerson</i>) greatly increased compared to previous years. Also, shore birds and sea birds like <i>Dilio</i> (Pacific golden clover), <i>Belo</i> Dravu (<i>Egretta sacra</i>) and <i>Kasaqa</i> (Lesser frigatebird) have been found nesting in their mangrove forest in large numbers.</li> <li>- The village headman of Nasilai village, Veresa Tuisawaqa stated with the continuous mangrove planting done by the ITTO Project, <i>Mud crab</i> (<i>scylla serrata</i>) and <i>mud lobsters</i></li> </ul>

		<i>(thalassina anomala)</i> have increased in numbers and have become good sources of income for the communities.
<b>Activity 2.3</b> Community training workshops to assist communities to formulate community policy, laws and regulation to maintain and monitor planted areas to ensure its sustainability in the long term.	By the end of the first year, 30 individuals are trained on formulating community policy, laws and regulations to maintain and monitor planted areas to ensure its sustainability in the long term.	<ul style="list-style-type: none"> <li>- Community members were equipped with monitoring skills to ensure sustainability. More than 200 community members participated. Women involved in the monitoring ensure the survival of planted mangroves, fruit and native trees.</li> <li>- Most fruit trees planted way back in 2016 have bear fruits such as hybrid coconuts, cumquat, breadfruit and soursop.</li> </ul>
<b>Activity 2.4</b> Document and publish guidelines for coastal and mangrove wetland restoration.	By the end of the third year, a guideline for degraded coastal mangrove wetland restoration is published.	<ul style="list-style-type: none"> <li>- It was agreed in the 2nd Project Steering Committee not to prepare a mangrove guidebook but a community Mangrove Management Guideline for Output 4. For this activity, OISCA invited to share their experience with the six communities on how to plant mangroves as they were part of the successful mangrove restoration in Sigatoka, Nadroga. Secondly, the project refers to Philippine Mangrove Handbook and applies to local context in regard to mangrove wetland restoration.</li> </ul>
<b>Output 3. Maintain and enhance traditional knowledge and skills that will enable communities to value and sustain resource utilization.</b>		
<b>Objectives, Output and Related Activities</b>	<b>Indicator/Outcome (Project Document)</b>	<b>Achievement (Project Realisation)</b>
<b>Activity 3.1</b> Collate traditional knowledge and document skill sets needed for harvest and preservation of key food/timber sources from coastal and wetland mangrove systems.	By the end of the first year, traditional knowledge and skills for harvesting and preservation of key food sources found in mangrove ecosystems are documented.	<ul style="list-style-type: none"> <li>- Traditional knowledge and skills for harvesting and preservation of key food sources found in mangrove ecosystems documented.</li> <li>• Traditional clan land management authority and custom of ‘<i>solesolevaki</i>’ or community collaboration</li> <li>• traditional cultural practices of making tapa cloth &amp; mat weaving</li> <li>• Traditional method of catching crabs and mud lobsters</li> <li>• traditional custom of “<i>taboo</i>”(traditional protected area)</li> </ul>

		<ul style="list-style-type: none"> <li>• Giant swamp taros (<i>cyrtospema chamissonis</i>) preserved for natural disasters.</li> </ul>
<p><b>Activity 3.2</b></p> <p>Conduct community training to disseminate and build capacity for uptake of knowledge and skills gathered.</p>	<p>By the end of the third year, 4 communities are trained to appreciate and implement traditional knowledge and skills for harvest and preservation of key food sources from coastal and mangrove systems.</p>	<ul style="list-style-type: none"> <li>- Community training is conducted to disseminate and build capacity for uptake of knowledge and skills gathered.</li> <li>- Activity conducted in conjunction with output 1.</li> <li>- Findings captured in the Community Management Action Plan.</li> </ul>
<p><b>Activity.3.3</b></p> <p>Publish for wider dissemination of information gathered from Activity 3.1 above.</p>	<p>By end of the second year, information gathered in Activity 3.1 above is published for wider dissemination among communities that live within coastal and mangrove wetlands outside the project site.</p>	<ul style="list-style-type: none"> <li>- A video of the project that portrays the change in perception of members in the six communities in the management of coastal and wetland mangrove systems in the Rewa Delta.</li> <li>- The participation of the ITTO project in the Workshop and Exhibition aimed to promote the ITTO project activities and to share experiences with other agencies.</li> </ul>
<p><b>Output 4. Framework to support existing mangrove policy and legislation</b></p>		
<p><b>Objectives, Output and Related Activities</b></p>	<p><b>Indicator/Outcome (Project Document)</b></p>	<p><b>Achievement (Project Realisation)</b></p>

<p><b>Activity 4.1</b></p> <p>Consultative workshop to identify levels of coordination, collaboration and networking among key institutions – and collate key issues on coastal and mangrove wetlands</p>	<p>By the end of the first year, key institutions identified and recommendations emerged from consultation outlining responsibilities and institutional linkages between legislated responsibilities with clear roles and responsibilities, identifying levels of collaboration and networking.</p>	<ul style="list-style-type: none"> <li>- Key institutions have been identified with clear roles and responsibilities. <ul style="list-style-type: none"> <li>• Ministry of Forestry</li> <li>• Ministry of Fisheries</li> <li>• Ministry of Lands and Survey</li> <li>• Ministry of Waterways &amp; Environment</li> <li>• Ministry of Agriculture</li> <li>• Ministry of i-Taukei Affairs</li> </ul> </li> <li>- Levels of coordination, collaboration and networking: <ul style="list-style-type: none"> <li>• Involved in project implementation as Members of SPC and PTC</li> <li>• Presenters in community workshops and training.</li> <li>• Participated in Community Awareness Outreach Programme.</li> </ul> </li> </ul>
<p><b>Activity 4.2</b></p> <p>Undertake a cost benefit study on the extent of illegal trade in fuel wood sourced from coastal and mangrove forests and make recommendations aligned to National Forest Policy 2007.</p>	<p>By the end of the first year, recommendations emerge from consultative stakeholder workshops to identify key policy issues, hopes and aspirations on the sustainable management of coastal and mangrove wetlands.</p>	<ul style="list-style-type: none"> <li>- A cost-benefit study on the extent of illegal trade in fuel wood sourced from coastal and mangrove forests was conducted with the six communities through personal interviews.</li> <li>- Facebook selling and cutting of mangroves were advised on the impact of illegal cutting and selling of mangroves.</li> <li>- -Cost benefit analysis for different management options</li> </ul>
<p><b>Activity 4.3</b></p> <p>Assessment of fuel wood licensing system to identify challenges and status of illegal sale of fuel wood; make recommendations for future management based on cost benefit analysis.</p>	<p>By the end of the third year, the executing agency adopts the revised licensing, monitoring and surveillance system for fuel wood.</p>	<ul style="list-style-type: none"> <li>- Issuing of License by the MoF has ceased.</li> <li>- Commercial mangrove timber harvesting was phased out in line with the National Forestry Policy, 2007.</li> <li>- Restored mangroves are State-owned resources and illegal harvesters are reported as soon as they are found cutting mangroves.</li> </ul>

		<ul style="list-style-type: none"> <li>- Narocake village and Muanaira village (project sites) in the Province of Rewa has banned the harvest of mangrove for fuelwood.</li> <li>- The village headman of Narocake village has been on the frontline monitoring and stopping the illegal harvesting of fuelwood by illegal loggers.</li> <li>- In November 2020 Muanaira Village headman confiscated one chainsaw that was used by these illegal loggers, and with the assistance from the Ministry of Forestry Nausori office these loggers were charged with a \$1,000 fine.</li> <li>- Communities are aware of the importance of protecting this vulnerable mangrove forest and village headmen in the Rewa Delta are leading the monitoring and surveillance for illegal removal of mangroves for fuel wood.</li> </ul>
<b>Objectives, Output and Related Activities</b>	<b>Indicator/Outcome (Project Document)</b>	<b>Achievement (Project Realisation)</b>
<p><b>Activity 4.4</b> Develop, advocate and streamline the approval of a Code of Conduct for Sustainable Management of Mangrove Ecosystems through relevant Government Agencies</p>	Development and obtain Cabinet Approval for Code of Conduct for Sustainable management of mangrove ecosystem	<ul style="list-style-type: none"> <li>- Community-based Management Guideline for Mangrove Rehabilitation and Restoration in Fiji” developed and published which is aligned to the National Mangrove Management Plan.</li> <li>- The Guideline was launched at the Grand Pacific Hotel on Thursday, 8<sup>th</sup> of December, 2022 by the Prime Minister of Fiji and Minister of Forestry, the Honorable Mr. Josaia Voreqe Bainimarama and the Japanese Ambassador in Fiji, H. E. Mr. KAWAKAMI Fumihiko.</li> </ul>



#### 4.2.1. International events (symposiums, conferences and meetings) attended and participated by project

During project implementation, members of the PSC committee and the Project coordinator attended conferences, seminars and meetings related to mangroves at the international level to present project activities and campaigning on community mangrove rehabilitation in Fiji as listed in table 9.

**Table 9. National seminars, workshops and meetings attended and participated by the project.**

NO	EVENTS	LOCATION, TIME	PROJECT'S ROLE
1	International Conference on Sustainable Mangrove Ecosystems	Bali, Indonesia, 18 <sup>th</sup> to 21 <sup>st</sup> of April 2017	CF Invited as a Speaker and Discussion Panelist.
2	International Conference on Sustainable Mangrove Ecosystems	Bali, Indonesia, 18 <sup>th</sup> to 21 <sup>st</sup> of April 2017	Poster Presentation by the Project coordinator.
3	International Seminar on “Protecting Coastal Areas with Forests: Toward the Development of Disaster Prevention and Mitigation Technology”	Virtual Meeting 26 <sup>th</sup> of January 2022	The Project Coordinator was invited as Speaker and Discussion Panelist.
4	World Forestry Congress	Coex, Seoul Korea, 1 <sup>st</sup> to 6 <sup>th</sup> of May	Poster Presentation by Dr. Hwan-ok-Ma.

### **4.3. Involvement of project beneficiaries and related stakeholders**

#### **4.3.1. Communities**

The primary beneficiaries of the project are the local communities in the province of Rewa and Tailevu living within the Rewa Delta and around the degraded mangrove forest areas where the project activities were implemented. Primary beneficiaries' participation in the project occurred since its very inception, as well as throughout project activities. They were involved in:

- The project steering committee meetings and project monitoring missions.
- All capacity building and education programmes, construction of nurseries, seedlings productions, selection of areas to be recovered and planting of native, fruit trees and mangroves, monitoring reforested sites and establishment of other alternative livelihood projects.
- Attending meetings on the elucidation of existing rules and regulations concerning community-based mangrove management; participated in the meetings on the development of community management action plan, participated in the public consultation on policy and strategy for Sustainable Community-Based Mangrove Management Guideline and acted as trainees of the training program implemented by the project.

#### **4.3.2. Government Institutions**

The corresponding government institutions are related to the project program:

##### **4.3.2.1. Ministry of Forestry (Executing Agency)**

The Executing Agency institution in the implementation of the project. Mandated by policy to ensure the conservation of forest and biological resources and restoration of degraded areas. The DOCE and technical staff of the Ministry of Forestry from other divisions were involved in all project activities implementation applying their experience and local knowledge. The following Forestry divisions presented their activities in line with the concept of Mangrove Management during awareness training:

- Ministry of Forestry on Harvesting License Procedures - the presentation provided awareness to the participants on harvesting licensing procedures and also provided insights on the content of the Fiji Forest Harvesting Code of Practice 2013.
- Timber Utilization Division - presented on the uses of Fiji Timber which includes timber species commonly found in the Rewa Delta.
- Ministry of Forestry Sandalwood Project – presented the importance of the Sandalwood tree (*Santalum Yasi*, *Santalum album* and *Santalum austro-caledonicum*) as one of the species that has been identified to be the best source of income for resource owners. This has allowed the Rewa Delta communities to make decisions in acquiring it as one of the alternative livelihood options.
- Reforestation on Degraded Forest Project – a government-funded project promoting the reforestation of the degraded forest. One of their major tasks is the coastal rehabilitation and construction of community nurseries.

#### **4.3.2.2. Ministry of Fisheries (Collaborator)**

The project established collaborative activities with the Ministry of Fisheries such as action workshops on mangrove management and utilization. The Ministry presented on coastal fisheries, mariculture programme, and marine ecosystem as Rewa Delta communities heavily relied on their catch from the mangrove forest. Likewise, they informed participants on other management solutions which could be ventured into, to release pressures on the use of natural resources. Ministry of Fisheries promoted the development of sustainable brackish water aquaculture activities for food security, poverty alleviation and import substitution by supplying high-quality tilapia, prawn and other freshwater species seedlings to the project sites.

#### **4.3.2.3. Ministry of Waterways & Environment (Collaborator)**

The Ministry of Waterways and Environment (MOWE) is mandated by law to protect and improve Fiji's environmental conditions. The Department has a close relationship and coordination with the Executing Agency in the implementation of the mangrove restoration project. The Department of Environment enlightened the Rewa Delta communities on Litter Amendment Decree 2010, Endangered and Protected Species Act 2002, Ozone Depleting Substances Act 1998, Environmental Impact Assessment Process (EIA) 2007 and Environment Management Act (EMA) 2005 which is a process of evaluating the likely environmental impacts of a proposed project or development, taking into account inter-related socio-economic, cultural and human-health impacts, both beneficial and adverse.

#### **4.3.2.4. Ministry of Lands (Collaborator)**

Legally mandated to manage State Land including foreshore area below the high tide water line. The project established collaborative activities with MoL on community training and workshops. Other collaboration and coordination developed through the Community outreach programme. The Ministry of Lands enlightened workshop participants on the Mangrove Management Plan and elaborated on the relevant laws and regulation that governs the protection of mangroves.

#### **4.3.2.5. Ministry of Agriculture (Collaborator)**

Legally mandated to direct and assist the development of agro products. The Ministry of Agriculture has a close relationship and coordination with the Executing Agency in the implementation of the mangrove restoration project. The project established collaborative activities with MoA through training on alternative livelihood and provision of seedlings to be planted in the degraded areas as well as seeds for home gardening. Officers from the Agriculture Department Landuse Division presented to the six communities the importance of shifting cultivation, intercropping, agroforestry and crop rotation. The Ministry of Agriculture staff from Koronivia assisted in the construction of the piggery at Nasilai, provision of piglets and also with the establishment of the beekeeping project at Muanaira.

#### **4.3.2.6. I-Taukei Lands Trust Board (i-TLTB) (Collaborator)**

I-TLTB secures, protects and manages land ownership rights assigned to the indigenous landowners and facilitates the commercial transactions that revolve around its use. Given the integral role of mangrove regions in village life, subsistence, and affairs, there is a clear mandate to protect them under the aegis of the NLTB. Most mangroves are associated with reserve land, which has been specifically put aside for the use, maintenance, or support of the indigenous landowner.

### **4.3.3. Collaborating Partners**

#### **4.3.3.1. Secretariat of the Pacific Community (SPC)**

Secretariat of the Pacific Community provided broad-based advocacy and skills development to regional countries, sustainability of resource base and improvement in local communities' well-being. Have strong collaboration with Executing Agency and local governments with the capacity to mobilise local communities. Actively involved in the development of the Community Mangrove Management Plan in consultation with the local communities and the Ministry of Forestry.

#### **4.3.3.2. Ministry of i-Taukei Affairs**

Mandated to protect the indigenous culture and the economic and social development of indigenous Fijians. The Provincial office comes under the Ministry of i-Taukei Affairs and is a partner in the implementation of the project. Provincial Office influences the administration and development strategy in Provincial governance and mangrove management. As the project works with the *i-Taukei* communities, the Project Management Unit (PMU) had to work in collaboration with the Rewa and Tailevu Provincial office and village headmen for all village projects related-activities.

#### **4.3.3.3. University of the South Pacific (USP) Institute of Applied Science (IAS)**

USP-IAS has the mandate to research and assist wetlands management and resource use. The university has been involved in implementing certain activities of this mangrove project such as presenters in community workshop and training, provision of the list of tree species to be planted and their location, involvement in surveying the identification of zoning mangrove planting and land use plan development. USP conducted the mangrove national campaign which was linked to the project and its staff were engaged in many of the efforts to restore and manage mangroves' sustainability in the Rewa Delta.

#### **4.3.3.4. Conservation International**

Conservation International Fiji provides advocacy and community-based conservation, terrestrial rehabilitation and restoration of degraded landscapes. The PMU established a collaboration with CI from the initial stage of the project to completion in regards to consultation, community workshops and awareness programme which was effective in achieving the project's objectives.

### **4.4. Project sustainability**

It is imperative for long-term sustainability that the project has the support of the government, NGOs, traditional chiefs and emerging leaders of the communities. In the implementation of the project, activities were carried out in collaboration with particular stakeholders. This became an important factor in building the foundation for an exit strategy after project completion. The following stakeholders are responsible for following up on the exit strategy through efforts such as:

#### **4.4.1. Ministry of Forestry (Executing Agency)**

After the project completion, the executing agency will continue promoting the planting and monitoring of the mangrove forests in the Rewa Delta through the forestry officer in charge of the Rewa Province in collaboration with conservation officers from the Rewa and Tailevu Provincial office. This is to ensure that mangrove resources are sustainably harvested thus allowing effective regeneration. It is expected that restored coastal and mangrove wetland will enhance the production of fish and other marine species, and facilitate a sustainable supply of fuel wood, house poles and other non-wood products that improve income levels and livelihoods of local communities. The EA would continue supporting the Fiji National Forest Policy by advocating for the permanent conservation of mangroves to provide for sustainable customary use and sustenance of coastal fisheries. The DOCE to monitor the maintenance of the Tailevu and Rewa Distribution centers and continue to follow up with the seedling raisings so that the nurseries remain worthwhile.

#### **4.4.2. Ministry of Agriculture**

The project had built good coordination with MoA to strengthen the alternative livelihood project development. Agriculture Department staff at Nausori would continue to assist in monitoring the bee-keeping project at Muanaira and the piggery rearing project at Nasilai. It will continue to provide capacity building and economic empowerment by equipping community members with all the skills and knowledge needed to operate the alternative livelihood projects effectively so that it remains economically viable. As for the empowerment dimension, it will continue to assist in providing the necessary start-up resources for carrying out these activities at the individual level.

#### **4.4.3. Ministry of Fisheries**

The project worked in collaboration with the staff of the Ministry of Fisheries from Naduruloulou Fisheries Station in the construction of the four brackish water shrimp ponds in the project sites. The Fisheries Department staff at Naduruloulou will continue monitoring the economic sustainability of these ponds through the provision of tilapia fry and prawn shrimplets, feeds, and technical advice, and likewise finding markets to sell the harvested tilapia and prawns on behalf of the communities.

#### **4.4.4. Local Communities**

To ensure the sustainability of project outcomes, local communities were involved at different stages of project implementation. This would ensure that there is a sense of ownership which will help guarantee that the project is sustained.

#### **4.4.5. Ministry of Women**

The Ministry of Women officials at the Nausori office has partnered with the ITTO Project in coordinating its work regarding the type of assistance suitable for women in the six rural communities. The Ministry of Women will continue assisting women in the Project sites to benefit from the training conducted at FNU and to develop other activities that will empower women in the Rewa Delta.

#### **4.4.6. Conservation International**

Overall, after project completion, the Ministry of Forestry will continue networking and increase the collaboration with key stakeholders to strengthen local, national and international networks in supporting the project outcomes. For instance, the Ministry of Forestry is providing support to Conservation International which has secured funding for a blue carbon project that will be conducted in the six project sites of the Rewa Delta which will enhance the conservation of Fiji's largest mangrove ecosystem.

#### **4.4.7. Ministry of Trade (NCSMED)**

Amongst other things, the NCSMED and other government departments have to continue to provide capacity building. Some community members who have received training in small business development and sustainable agriculture are now managing their own alternative livelihood projects. Many challenges will face these groups and individuals involved as they seek to develop their businesses further so ongoing support from the authorities will be necessary.

#### **4.4.8. Private Sector**

Fuelwood trees planted in the six communities of the project sites and 21 other coastal communities in the Rewa and Tailevu Province will take five to ten years to harvest and at the same time restored mangrove takes years to be fully grown. Given this fact, the ITTO Project has encouraged communities, especially women during awareness workshops and community outreach programme, to use eco-friendly stoves that use little firewood as a way to reduce the demand for native trees and mangrove forests to be used as firewood.

The Ministry of Forestry (Executing Agency) is collaborating with Kasabias Limited, a firm specializing in hardware supplies in Fiji that is promoting an eco-friendly and clean energy stove (*Sitovu Buka*) that only uses firewood without producing a huge percentage of smoke when compared to open fire. The eco-friendly stoves consume very little amount of firewood as fuel, therefore women do not have to cut trees to use as fuelwood but simply pick small branches around their house and use them for cooking. As for sustainability, using eco-friendly stoves will empower women in the Rewa Delta to save money considering the high cost of living, reduce health risks compared to open fire cooking, reduce the over-subsistence use of mangroves and help save the environment from carbon emissions.

According to Kasabias Limited, approximately 60,000 Fijian families that reside in over 100 rural communities throughout the fourteen provinces including the Rewa Delta have benefited from the nationwide initiative that started three years ago. The initiative focuses on promoting the daily use of clean energy stoves and clean cooking nutrition. The clean energy stove is given for free to communities and is part of the United Nations Framework Convention on Climate Change – Clean Development Mechanism (UNFCCC-CDM) initiative which aims to accelerate sustainable energy access for women in rural communities and is funded by the Korean Carbon Management Limited. This year, 2022, the Ministry of Forestry (EA) and the ITTO project have been coordinating with Kasabias Limited and have supported their programme in conducting workshops in over 100 rural communities that have received the clean energy stove. The workshops focused on the maintenance of eco-friendly stove and its safe use as well as cooking demonstrations using locally available healthy ingredients from gardens and markets.

## **5.0. ASSESSMENT AND ANALYSIS**

### **5.1. Project rationale and identification process**

The Executing Agency together with collaborating partners provided technical and logistical support for the execution of the project. The Executing Agency was the Ministry of Forestry.

Partner organisations included the Secretariat of the Pacific Community, the Institute of Applied Science/University of the South Pacific, Conservation International and the Ministry of iTaukei Affairs. All the above organisations have specific field expertise from policy-making at national and regional scales, research and policy advisory services to direct linkages, a proven record for community-based project implementation and have long associations in the field of practical and applied (forestry-based) community development in Fiji.

The collaborating partners in the public sectors include the Department of Forestry, Department of Fisheries, Department of Lands and Survey, Department of Environment and Department of Agriculture. These agencies are responsible for guiding project activities to align to Government policy focal areas as well as providing technical inputs that formed the basis of information that facilitated community discussion and awareness. Regional research organization and non-government were heavily involved in all stages of the project by facilitating and supporting the Executing Agency in carrying out project activities. A number of project components were contracted to such institutions to supplement the expertise of the Executing Agency as well as to secure quality project outputs and outcomes.

Management of mangrove resources is the domain and responsibility of the Ministry of Land and Ministry of Forestry. Therefore, the Ministry of Forestry (MoF) shall define management objectives and policies on mangrove restoration programme and utilization. In addition, it is responsible for the issuing of harvesting license and other roles; therefore, should work collaboratively and have good coordination with other sectors such as the Ministry of Land (MoL) which is legally mandated to manage State Land including foreshore areas below the high tide water line and also Ministry of Waterways and Environment which is mandated by law to protect and improve Fiji's environmental conditions.

The Provincial Office is also involved and plays a role in developing mangrove utilization as well as responsible for leading the local community on mangrove utilization. The Community itself played an important role as the main actor in sustainability mangrove reforestation and also as the main beneficiaries. This project addressed all involved stakeholders in degraded land and mangrove rehabilitation in one framework "community-based restoration" as a national platform strategy to bring sustainable restoration of mangroves and related resources into a resilient mangrove forest ecosystem in Fiji.

## **5.2. Problems addressed, project design and implementation strategy**

This project was conducted to address four major causes of the key complications identified in the project document, namely problems associated with socio-economic aspects of community reliance and unsustainable management practices; the loss of ecosystem services and habitat for biodiversity; loss of traditional knowledge and skills as well as the deficiencies and lack of coordination between key governing agencies.

The identified key problems were drawn in the problem tree which summarized the consequences and the causes as well as sub-causes, was used as the basis for constructing a solution tree, which was then used as the basis for defining the project elements. Therefore, implementation strategies focused on (i) how to provide alternative livelihood options for key communities that would alleviate current pressures from excessive resource utilization, (ii) how to recover the loss of ecosystem services and habitat for biodiversity, (iii) how to revive traditional knowledge and skills and (iv) how to promote and enhanced coordination between key governing agencies.

The implementation strategy “to provide alternative livelihood options for key communities that would alleviate current pressures from excessive resource utilization” in Rewa Delta was conducted through training and workshops on resource availability and identifying alternative generating income selected through wide consultation with stakeholders. Adoption of livelihood interventions from capacity building, technical assistance and organizational support have linked up appropriately with mangrove rehabilitation.

To address biodiversity loss with ecosystem recovery, the implementation strategy was focused on the rehabilitation of degraded systems aligned to National Forest Policy 2007. The introduction of improved traditional fallow and harvesting systems that are supported by community resource management action plans based on land allocation and a strong local governance system, is the implementation strategy to rekindle traditional knowledge.

The implementation strategy to promote and enhance coordination between key governing agencies was conducted through networking and stakeholder consultation forum, to strengthen the protection of mangroves and its natural resources and to develop a Community Mangrove Guideline aligned to the Government’s strategic direction of sustainable coastal and wetland mangrove ecosystem.

From the realized Project performance and outcome, it can be seen that the Project had been adequately designed through the correct definition of problems, the accurate identification of project objectives, and the viable choice of the implementation strategy. At the same time, the identification process is closely linked to different stakeholders, this ensures the Project can create impacts on the right target beneficiaries.

Overall, from the implementation of the project; the development and specific objectives planned in this project have been successfully realized and the main outputs of the project planned have been achieved.



### 5.3. Critical differences between planned and actual implementation

During the project implementation, there were several variations and adjustments made by certain justification. The circumstances happened because of some intentional adjustments while others unintentionally. According to the project document, the project duration was 36 months or, three years. The actual project duration was 81 months with an additional 45 (forty-five) months extension. In general, the project was implemented sufficiently although there were unexpected delays due to the following:

1. Deferment by communities. At the commencement of the project in 2016, the PMU was advised by the Rewa and Tailevu Provincial office that the communities had requested that any community awareness and training had to begin from February as December and January are normally festive seasons.
2. Heavy rain downfall and flooding normally occurred for days during the cyclone season from November to April.
3. The country was severely affected by Tropical Cyclone Winston in February 2016 and the Honorable Prime Minister declared a state of emergency for 30 days effected from 20<sup>th</sup> February. The Cyclone had resulted in significant damage to villages of the project site and community awareness and training scheduled during February and March were postponed. Most of the technical staff who were involved with the project were part of the DISMAC team during this period which affected the implementation of the project in March and April. Furthermore, the country was severely affected by a flood in early December 2016 and this affected the planting phase implementation of the project. In 2020, TC Ana and TC Yasa battered the country with strong wind and heavy rain which further delayed the implementation of the project.
4. With the Covid-19 outbreak in Fiji in July 2020 to April 2021, the six ITTO Project sites were on lockdown and visitors were not allowed to enter these communities and even mass gathering within the village was also prohibited. Due to Covid-19 lockdown, the project implementation was delayed for ten months.
5. There was a change in the government policies whereby Fiji Government fiscal year will begin on August 1 and will end on 31<sup>st</sup> July. As a result, all donor funds were returned to the Ministry of Finance at end of June, beginning in 2016. The balance of funds needs to be requested in August of the same year. This has also hindered both the implementation and utilization of the budget.
6. The project also faced challenges regarding land tenure issues, especially during the planting phase. This became a time-consuming element for the project team but the matter was resolved through village meetings where the villagers mutually agree for the area to be planted for rehabilitation and restoration purposes.

#### **5.4. Adequacy of project inputs**

The project inputs in terms of project personnel to manage all activities were adequate. The national consultants appointed by the project had been able to accomplish the assigned tasks satisfactorily. In terms of project funds, it was sufficient to finance all project activities and operations. There were six instalments of budget disbursement received by the executing agency and managed by the project management unit and had been used in accordance with the activities and operations of the project. The total budget amount based on the project document was US\$ 310,576.00 consisting of US\$ 249,800 as ITTO's contribution for project implementation, whilst, US\$ 76,935.00 was the Government of Fiji's contribution. From the amount of ITTO's contribution of US\$ 249,800.00, the total budget received after a shortfall of funds were US\$ 235,800. The total expenditure of the project up to 30 April 2022 was US\$ 228,924.00 with a balance of funds of US\$6,896.00. Appropriateness of expenditures had been audited by Ernest Young and the audit report was submitted to ITTO Japan. ITTO gave approval for the project to utilize the remaining funds for project completion. During the project implementation, the executive agency gave great support to personnel and equipment, financial and data resources. Project team members were actively responsible in their roles and stakeholders actively contribute support to the project when necessary. The ITTO Secretariat also provided valuable comments and ideas during project implementation. Therefore, project inputs were adequate.

#### **5.5. External influences**

During project implementation, several external factors have influenced the process of execution strategy of field activities and coordination with stakeholders involved. At the community level project established cooperation directly with community groups in the six project sites to establish demonstration plots on native trees and mangrove planting. The communities actively participated in the training implementation and information dissemination process. There were no problems with the availability of training instructors and presenters from different government institutions. These assigned presenters had been contacted in advance to ensure their in-time availability. The communities were passionate to attend the training sessions and meetings. They were eager to know the information on the purpose and benefits of mangroves and how to manage them sustainably. During the training implementation, local communities had been informed of the benefits of mangroves and that Sustainable Community Based Restoration and Management of Vulnerable Forests will soon become applied to all mangrove forest areas. Indeed, the ultimate target of this project is to strengthen the capacity of communities in mangrove management and promote the use of mangrove resources to improve welfare.

At the provincial level, the project built coordination with the Provincial offices of Rewa and Tailevu that are responsible for the wellbeing of the i-Taukei communities, therefore had to be consulted for any alternative livelihood project related-activity. Provincial officers were involved in all the livelihood project activities, local community empowerment and training activities conducted. In the opening and closing of community awareness training workshops in the six communities the Provincial Administrators, Roko Tui Tailevu and Roko Tui Rewa were always invited to give their address. At the international level, the project had succeeded in communicating and coordinating with international agencies, particularly those related to the protection and restoration of mangroves. This had a positive impact on the dissemination and distribution of project results at the international level and also brought positive impacts to ITTO that has supported and given contribution to the restoration and conservation of mangrove forests in Fiji.

## 5.6. Project beneficiaries

The project implementation provided and gained benefits to the primary beneficiaries and stakeholders involved. Through the developed mechanism of “sustainable management of vulnerable forests”, mangrove users in Tailevu and Rewa Province are now aware of their mangrove forests as their assets and need to upkeep their mangrove ecosystems for higher productivity and ensure sustainability. Training conducted for villagers had equipped communities with the skill needed for mangrove forest management, sustaining harvesting and value-added on utilization of alternative livelihood projects. The six communities were provided alternative livelihood projects to support them and reduced their dependence on their scarce mangrove possessions.

The government institutions, partners, collaborators, and Provincial offices improved their framework for supporting mangrove rehabilitation through workshops, meetings and forum group discussions (FGDs) conducted by the project. This will support the government authorities’ ability to develop policies and regulations on sustainable mangrove rehabilitation and conservation. The primary beneficiaries and stakeholders involved will continue gaining benefits from the project outputs and they will follow up and strengthen the framework and the platform that has been developed through the community-based restoration and sustainable management of vulnerable forests of the Rewa Delta.

## 5.7. Project sustainability

Tree felling and unsustainable extraction of mangrove livelihoods can cause the degradation of restored mangroves and natural resources without sustainable strategies. In the situation of both areas, it is very crucial to evaluate the sustainability of mangrove forest management systems for the proper management of the mangrove forest and other resources therein. Monitoring of restored sites and other livelihood project activities need to be implemented continuously after project completion as follows:

- 1) Implementing the policy and framework of the Community Mangrove Guideline for the sustainability of mangrove areas based on community empowerment required the participation of all key stakeholders at every stage of policy implementation.
- 2) Government ministries to utilize the capital facilities and resources that have been made available by the ITTO project, with the involvement of all communities in the Province of Rewa and Tailevu.
- 3) An existing program within the i-Taukei Affairs Board called the Yaubula Management Support Teams (YMST or Community-based Resource Committees) was revived and strengthened through the project Community Awareness Programme whereby the YMST will spearhead community management and monitoring of mangrove resources. In addition, existing governance systems (Village Development Committees) were also strengthened through improving coordination and monitoring of wetland management and conservation.

The ITTO Project has been focusing on community involvement which is a useful process for sustainability and continues to advice these communities to take full ownership of this project to ensure its sustainability in the long run.

## 5.8. Institutions Involved in Project Implementation

The project has been running in collaboration with relevant stakeholders who also continue to support the sustainability and follow-up of achievements that have been generated by the project. MoF as EA and chairing the PSC meeting play an important role in supervising the running of projects undertaken by the PMU and the contracted national consultants. The PSC meetings that have been held led by the Conservator of Forest show strong institutional support and commitment to the project.

Institutions that were members of the PSC also showed positive support for the project. The Project Steering Committee (PSC) is comprised of the following members: -

1. Executing Agency – Ministry of Forestry,
2. Representative of the International Tropical Timber Organization (ITTO),
3. Representative of Donor Country,
4. Representative of the Ministry of Lands and Mineral Resources, Fiji,
5. Representative of Ministry of Agriculture, Fiji,
6. Representative of the Ministry of Environment Fiji,
7. Representative of the Secretariat of the Pacific Community,
8. Representative of Provincial Councils of Rewa and Tailevu,
9. Representative of the i-Taukei Lands Trust Board,
10. Representative of local communities,
11. Representative of the University of the South Pacific and
12. Representative of Conservation International.

The Steering Committee was mandated to; (i). Direct the Executing Agency on site selection and project implementation, (ii). Review and monitor project work plans and related activities, (iii). Ensure alignment of the project activities to support Government Policies and Strategic Development and (iv). Ensure that community interests are addressed as well as the full participation of local communities.

The PSC appointed a technical committee that provided the platform for a consultative mechanism that would engage a wider stakeholder apart from those present in the Steering Committee. The Technical Committee provided critique on the technical aspects of the project such as site and species selection in addition to other technical aspects. The agencies that formed this committee were USP, CI, SPC, Department of Forestry, Department of Fisheries, Department of Lands and Assistant District officers from the Rewa and Tailevu Provincial office.

The representative of Donor country and ITTO also attended several PSC meetings that have been held by the project. In addition to the members of the PSC who had supervised and provided input during the project's implementation, other institutions also became partners in project implementation. The project partnered with NGOs and the private sector in the rehabilitation of other areas in the Rewa Delta. The implementation of Income generating project received a lot of support from the Ministry of Fisheries, Ministry of Agriculture, Provincial office and other divisions of the Ministry of Forestry.

## 6.0. LESSONS LEARNED

The achievement of the project's objectives has a significant impact on public perceptions and other institutions both local and international rallying support to strive toward a sustainable mangrove forest ecosystem in Fiji. So far, the rehabilitation of mangroves in Fiji is still limited to the location where evidence of degradation and coastal erosion exists; facilitated, financed and supported by the government and non-government organisations with the assistance of local communities. Through this project, a mangrove restoration model has been integrated into Fiji and is community-based. Therefore, lessons learned from this project and especially for the restoration, management and utilization of mangrove resources in Fiji are as follows:

1. The strategy of building collaborative networking amongst related institutions and stakeholders to establish a community mangrove rehabilitation programme has also supported the Fiji government initiative to plant 30 million trees in 15 years, set by the Prime Minister and Minister of Forestry, the Honorable Mr. Voreqe Bainimarama, during the United Nations Head of State Climate Change Summit in New York in 2019 in its campaign to combat climate change.
2. The community approach and stakeholder capacity building on mangrove management and utilization to establish sustainable community mangrove forest in Fiji. Community involvement and full participation of community members are vital for the success of mangrove conservation and restoration of degraded wetland areas.
3. Establishment of the institutional framework and strengthened capacity amongst the people in both the urban and rural community, government, non-government institutions and the private sector for a resilient mangrove forest ecosystem in Fiji.
4. Rewa delta communities have been custodians of the mangrove forest and this role cannot be taken for granted. This stewardship role needs to be formalized for enforcement to be effective.
5. Community members have their own priorities and responsibilities. Often these will not coincide with the implementation requirements of the project plan. Project staffs have to arrange suitable times that community members would avail themselves.
6. Income generation is a useful tool for increasing support and participation for the successful implementation of any project and deflecting resource use pressures.
7. To consult or facilitate the active involvement of all those stakeholders whose cooperation is necessary for the successful completion of the project.
8. Building relationships based on trust, with the donor, ITTO, recognized as valued stakeholder help build mutual understanding with the executing agency through the submission of comprehensive reports showing what is achieved on the ground and audit reports on the use of funds has enabled the project to continue receiving funds for the implementation of project activities as well as approval for extension of the project after project duration ended in 2018.

## **6.1. Project Identification and Design**

This project was designed to supplement the work of the MESCAL project by addressing the needs of local communities, focusing on the rehabilitation of coastal and mangrove wetlands, and devising an appropriate mechanism to track the illegal harvest and sale of fuel wood. The characteristics and key problems addressed by the project were identified through stakeholder analysis and consultative meetings. The project has been designed to develop a mangrove restoration model started from local site levels with communities to encourage sustainable mangrove management and utilisation.

At the national level, the project also has been designed to strengthen existing Land-use Policy and mangrove policy developed under MESCAL. The project also supported the Fiji National Forest Policy by advocating for the permanent conservation of mangroves to provide for sustainable customary use and sustenance of coastal fisheries. In addition, the project would contribute to the restoration of degraded wetlands and improving the livelihoods of communities as important concerns for government and community leaders. This undertaking created a platform for community-based restoration and sustainable management of vulnerable forests in the six chosen communities of the Rewa Delta.

In the project proposal, it has been designed that the sustainability of the project outcome is largely determined by the support of local communities as beneficiaries and the parties involved during project implementation. This would ensure that there is a sense of ownership which would help guarantee that the project is sustained. The project built network support programs and activities that have been implemented as well as building platforms that have brought local communities as beneficiaries, government institutions, non-governmental organizations as well as universities together in the same vision to build a sustainable mangrove forest ecosystem in Fiji.

## **6.2. Project Implementation**

Project implementation was managed by the project management unit (PMU) under the coordination of a project coordinator that was assigned by the Ministry of Forestry (MoF), as the executing agency of the project. While the Executing Agency (EA) focal point was the Conservator of Forest, the Director -Operation Central Eastern was responsible for the Project Coordinator who was therefore responsible for the day-to-day operation of the project.

The Executing Agency's Project Management Unit worked closely with the Project Steering Committee (PSC). The PMU comprises three project key personnel; the project coordinator, project technical assistant and project driver paid with ITTO funds. The PMU had the main task to manage all administration and field activities with all national consultants, experts and other institutions involved during project implementation.

The project had been successfully completed within the sanctioned financial and time budget due mainly to the adequate project design, supportive primary beneficiaries and partners, strong coordination with ITTO, other institutions and stakeholders involved, as well as the cooperative and competent national consultants and national experts.

### **6.3. Project Monitoring**

To ensure proper implementation of planned activities in extended project duration of activities, and progress of project impact required continuous monitoring. The Steering Committee took the lead role in reviewing and monitoring the project, ensuring that it was a continuous process, inexpensive and with minimum interference to project implementation. The project coordinator monitored all activities involving consultants, partners and other institutions. Maintaining the established network, collaboration and commitment were also conducted by the project coordinator.

The ITTO Projects Manager monitored the overall project work and its progress reports, administration, as well as achievement of expected project outputs. ITTO headquarters also monitors the implementation of ongoing projects conducted by PMU through PSC meetings, field visits, and meetings with project beneficiaries and involved stakeholders.

The monitoring and evaluation of progress in implementation had been performed through five PSC meetings and coordination meetings between PMU with the Permanent Secretary (PS) of Forestry; such meetings greatly contributed to the smooth project operations. The PMU, MOE and Planning office representatives conducted monitoring of the project in the six sites and through reports and minutes of meetings sent through email. Table 10 shows the Monitoring Meeting Conducted during Project Implementation and Table 11 displays Field Activities Monitoring and Stakeholders Coordination.

### **6.4. Project Reporting**

The project was managed in full compliance with existing ITTO rules and procedures; all the documents required by ITTO including YPOs, bi-annual progress reports, financial audit reports and documents of particular had been timely submitted to ITTO and facilitated immediate issuance of any approvals requested by EA and PMU.

The PMU prepared and submitted progress reports under ITTO guidelines every year from the date of project commencement. Each report was reviewed by the Executing Agency and approved by the Steering Committee before submission to ITTO.

**Table 10. Monitoring Meeting Conducted During Project Implementation**

<b>NO</b>	<b>EVENTS</b>	<b>LOCATION</b>	<b>TIME</b>	<b>CHAIRMAN &amp; PARTICIPANTS</b>
1	Village Consultation Meeting	Level 3, Board Room, Commissioner Central Eastern Office, Nausori	27 <sup>th</sup> May, 2015 (10.00am -12.00pm)	Chaired by Isireli Vunibaka (DFO-Central Eastern) 32 persons
2	Project Inception Meeting	Novotel Hotel, Lami Bay	18 <sup>th</sup> June, 2015 (10.00am-4.30pm)	Chaired by Sanjana Lal (DCFO) 51 persons
3	1 <sup>st</sup> PSC Meeting	De Vos on the Park Hotel, Suva	8 <sup>th</sup> October, 2015 (9.30am-3.30pm)	Chaired by Sanjana Lal (Conservator of Forest) 14 persons
4	2 <sup>nd</sup> PSC Meeting	Tanoa Plaza Hotel, Suva	27 <sup>th</sup> April, 2017 (9.00am-1.00pm)	Chaired by Isireli Vunibaka (DFO-Central Eastern) 16 persons
5	3 <sup>rd</sup> PSC Meeting	Holiday Inn Hotel, Suva	26 <sup>th</sup> June, 2018 (9.00am-1.00pm)	Chaired by Apisai Rinamalo (DFO-Central Eastern) 16 persons
5	4 <sup>th</sup> PSC Meeting	Holiday Inn Hotel, Suva	16 <sup>th</sup> August, 2019 (9.00am-1.00pm)	Chaired by Apisai Rinamalo ((DFO-Central Eastern) 21 persons
6	5 <sup>th</sup> PSC Meeting	Virtual Meeting	4 <sup>th</sup> August, 2021 (2.00am-3.30pm)	Chaired by Moape Drikalu ((DFO-Central Eastern) 14 persons



**Table 11. Field Activities Monitoring and Stakeholders Coordination**

<b>NO</b>	<b>LOCATION</b>	<b>TIME</b>	<b>PURPOSE</b>	<b>PARTICIPANTS</b>
1	Natila village, Tailevu Province	26 <sup>th</sup> April, 2017	Project site visit by the ITTO Project Manager.	ITTO Project Manager, DFO Central Eastern, Project Coordinator and Project Technical Officer
2	Naivakacau village, Tailevu Province	25 <sup>th</sup> June 2018	Project site visit by the ITTO Project Manager.	ITTO Project Manager, DFO Central Eastern, Project Coordinator and Project Technical Officer
3	1st Site: Nasese, Laucala, Rewa. 2nd & 3rd Site: Waicoka and Naivakacau village, Tailevu Province.	15 <sup>th</sup> August, 2019	1. ITTO Project Manager Field visit on restored mangrove sites at Nasese foreshore. 2. Project site visit by the ITTO Project Manager.	ITTO Project Manager, Project Coordinator and Project Technical Officer, ADFO Central Eastern.
4	Waicoka and Nasilai village, Tailevu Province	25 <sup>th</sup> June, 2020	Project site visit with Accounts and Planning Office from the Ministry of Forestry Headquarters and Ministry of Economy on the work progress on mangrove restoration and Alternative Livelihood Project (Brackish Water Shrimp Pond, Piggery Project) at the Project sites.	ITTO Project Coordinator, Accounts and Planning Department of the Ministry of Forestry and Ministry of Economy.
5	Waicoka, Naivakacau and Nasilai village, Tailevu Province	8 <sup>th</sup> November, 2021	Project site visit with Planning Office from the Ministry of Forestry Headquarters and Ministry of Economy on the work progress on mangrove restoration and Alternative Livelihood Project (Brackish Water Shrimp Pond, Piggery Project) at the Project sites.	ITTO Projects Coordinator, Accounts and Planning Department of the Ministry of Forestry and Ministry of Economy.

## 7.0. CONCLUSIONS AND RECOMMENDATIONS

### 7.1. Conclusions

Overall, most activities of the project were carried out sufficiently following the work plan and the guideline of the ITTO. The project was completed with all objectives achieved and delivered outputs and outcomes reinforced the rehabilitation and sustainable utilization of mangrove resources in Fiji. The conclusions from this project report are as follows:

1. The project was conducted to address a key problem of the stakeholders' weak capacity for the regulation and utilization of both wood and non-timber forest products, which also included the weakness of the institutional framework for coastal and mangrove wetlands. The project has successfully brought the solution to the key problem, and it greatly contributed to strengthening and delivering a clear framework for sustainable mangrove utilization. This framework becomes a strategy for promoting and extending the sustainable utilization of mangrove resources through community-based restoration and sustainable management of vulnerable mangrove forests in Fiji.
2. The project has established a platform for the "community-based restoration and sustainable management of vulnerable mangrove forests" in Fiji and at the same time boost the national government campaign to "plant 30 million trees in 15 years", supported by multistakeholder which includes government institutions, NGOs, universities, industrial players and local community groups as the main beneficiaries.
3. The video, publications, articles, posters, website and, other materials that were produced by the project had contributed to information dissemination of the community mangrove management and its utilization in Fiji at the national and international levels. The launched of the first ever for Fiji, the "Community-based Management Guideline for Mangrove Rehabilitation and Restoration in Fiji" and the three documentary videos at the Grand Pacific Hotel on Thursday, 8<sup>th</sup> of December, 2022 by the Prime Minister of Fiji and Minister of Forestry, the Honorable Mr. Josaia Voreqe Bainimarama and the Japanese Ambassador in Fiji, H. E. Mr. KAWAKAMI Fumihiko was the pinnacle of the successful implementation of the ITTO project.
4. The project has established a forum for coordination and networking among key stakeholders and government institutions for future capacity building with local communities.
5. To reduce pressure on mangrove resources for firewood and over-dependent on fish, crabs and mud lobsters as the main source of earnings; the project has planted fast-growing fuel trees as well as providing the opportunity to establish and operate small enterprises complemented by income-generating activities such as raising fruit and native tree seedlings, home gardening, sewing, tilapia and shrimp farming, piggery rearing and apiculture with the end products sold in the local markets.
6. With the inevitable upsurge of climate change; increases in the frequency and intensity of tropical cyclones, floods and sea-level rise are expected to be worse in the future, however mangrove restoration is one of the best nature-based solutions for climate adaptation measures which is likely to make an even bigger contribution to the Fijian blue economy.

7. The total allocated budget based on the project document was US\$ 249,800, however, the total budget received after the shortfall of funds was US\$ 235,820.00. The total expenditure of the project up to April 30, 2022, amounted to US\$ 228,924.00, and the remaining balance of funds of US \$6,896.00 has been returned to the Ministry of Economy. This is following the government policy that all donor funds have to be returned to the Ministry of Economy at the end of June and can be requested later in August the same year. However, ITTO gave the approval for the project to utilize the remaining funds for project completion. Thus, the remaining funds of US\$6,896.00. (FJ\$12,619.00) was used to pay Ernst & Young (EY), for the 2021-2022 Financial Audit, amounted to FJ\$6.440 and payment of FJ\$6,179.00 to Tropic Beat Studio for the project video documentary.
8. Prohibiting the cutting of mangroves in the Rewa Delta for commercial purposes and freeing it from overexploitation is a great achievement for the project in terms of long-term biodiversity conservation and sustainable management of mangrove resources. This is in line with the Department of Forestry's current policy that commercial mangrove harvesting should be prohibited. Banning the harvesting of mangroves for commercial purposes assists in the natural regeneration of harvested areas and this occurs quite rapidly as mangrove forests are present in the vicinity and the natural production of propagules is sufficient.
9. Communities are now more climate resilient and are more concerned with protecting their front yard as this was witnessed during training and awareness programmes. As part of the mangrove restoration and conservation plan, the ITTO Project worked in partnership with the headmen of the six communities with the support of all members of the communities to monitor and track the illegal extraction of mangroves and its resources as they live close to the mangrove forest. Village headmen have been active in reporting illegal cutting of mangroves close to their villages and actions were taken immediately with heavy penalties as a deterrence. As the village headmen represent the Provincial office and the government in the local community part of their responsibilities is to report on any unauthorized clearing, development, or illegal harvesting of mangroves.
10. Although rehabilitation and conservation issues are of prime importance, economic and social issues must be considered in the restoration plan for it to be successful. Illegal removal of coastal resources can be minimized by encouraging community participation. This can be ensured and sustained by facilitating the livelihood of the coastal community. The coastal people depend heavily on mangroves for their livelihood and have become a major determinant of the state of mangrove forests, therefore must be considered a component of the Fiji Islands' mangrove ecosystem.

## **7.2. Recommendations**

Based on the ongoing activities, field observations and the expectations of what is needed to strengthen the protection of the mangrove forest in the Rewa Delta, the following recommendations should be considered:

1. Permanent nurseries in Tailevu, Rewa and at project sites to raise their own seedlings (especially sandalwood) and sell to neighboring villages. This is to be a long-term project after the ITTO project ends, with the Ministry of Forestry to monitor and follow up with the seedling raisings so that the nurseries remain worthwhile.

2. The Project Coordinator received full support from existing members of Forestry staff in all divisions who are experts and qualified in their respective fields of work, so there was no need to employ additional staff. This minimise the cost of personnel, and ensure effectiveness of coordination internally with EA and among involved stakeholders. Effective utilisation of EA staff ensured the smooth implementation and successful completion of the project.
3. On issues of deferment of project activities, communities have their agenda. That is, any scheduled time for planting or construction of alternative livelihood can be deferred as communities also have their commitments towards their family, church and the '*vanua*' (village community) that do not coincide with the implementation of the programmed work plan. So, PMU could not intervene with their commitment but work around the schedule to achieve the general outputs of the project. The project has to plan activities taking into consideration the availability and programs of the communities. This at times affects project implementation and the project is not able to achieve the outputs set for the week and quarterly achievements.
4. EA should also work in collaboration with other national experts and professionals rather than just relying on key partners as consultants; so that their experience, skills and knowledge could be sought for recommendation promptly based on their competence and proficiency to avoid a lack of output achievement and disagreement during implementation.
5. The EA should maintain the support and established network from potential stakeholders such as governments, civil societies, NGOs, and relevant international organizations or societies to strengthen the national campaign on community-based mangrove conservation through the Community Mangrove Management Guideline as a National Strategy for Forests in Fiji.
6. It is strongly recommended the EA and its partners follow up and continue to strengthen the sustainable management of mangrove protection and conservation. The safety and well-being of coastal communities is the main goal of the project. Climate change is putting pressure on food security and water availability. The livelihood options supported by the project are those which contribute to overall food production.
7. A portion of the global climate funds received by the government to be invested towards mangrove management, planting, and blue carbon trading initiatives in locations such as the Rewa Delta. This is essential to conserve mangroves from illegal harvesting by coastal dwellers. The bottom line for cutting mangroves is to earn money, but if part of the return from carbon trading is recompensed to villagers as custodians of the mangrove forest on behalf of the state then surely illegal harvesting will subside. Likewise, this will strengthen the role of mangroves for environmental and other ecological services.
8. After an initial focus on the rehabilitation of degraded reserved mangrove forest areas through the establishment of community-based restoration and sustainable management of forests of the Rewa Delta, it became clear that long-term success required the development of a sustainable management and monitoring system, including capacity-building and governance.

9. Local communities are trained and empowered to implement activities linking livelihoods improvement to reduce over-dependence on coastal and mangrove wetland resources; thus affirming that mangrove areas are considered in planning and that infrastructure and development plans, in particular, do not inadvertently put coastal communities at risk by reducing mangrove coverage. For sustainability, mangrove-supportive livelihood options are enhanced and public awareness campaigns by key government institutions and other stakeholders must continue as a defensible approach to reduce community pressures on mangroves in the future.
10. Unanticipated circumstances could interrupt the timely completion of any project. In such situations, extensions have to be granted by the donor, thus assuring the successful accomplishments of all components before its replication.
11. Ongoing restoration and protection of mangrove areas and coastal systems across Fiji help protect fish, crabs, and mud lobsters stocks which not only contribute as a source of income to coastal communities but play an important role in livelihoods and food security, reduce erosion of shorelines and reduce coastal protection costs. The implementation of community-based restoration and sustainable management (CBRSM) is crucial in minimizing human disturbance of the vulnerable forests in the Rewa Delta and achieving sustainable use of mangrove resources. It emphasizes community participation in resource identification and setting development priorities that promote sustainable mangrove management practices.
12. The Rewa Delta restoration success model is the first of its kind in Fiji, therefore this CBRSM initiative could be replicated throughout the country in similar coastal communities which are vulnerable to climate change and related impacts.

**Responsible for the report**



**Name:** Mr. Aporosa Ramulo Livani

**Position held:** Project Coordinator

**Date:** 9<sup>th</sup> December, 2022

**ANNEX 1:**

**Project Financial Statement**

**Period: 1 January 2021 to 30 April 2022**

**Project No:** PD 898/13 Rev.2 (F)

**Project Title:** Community Based Restoration and Sustainable Management of Vulnerable Forests of the Rewa Delta, Viti Levu

Component	Original	Modified	Expenditures To-date			Available Funds
	Amount	Amount (A) [After shortfall of funds]	Accrued 2015-2020 (B)	Expenditure 2021-2022 (C)	Total (D) {B+C}	(E) {A-D}
Funds managed by Executing Agency	<b>249,800</b>	<b>235,820</b>				
<b>10</b> <i>PROJECT PERSONNEL</i>						
12 Project Coordinator	25,000.00	30,058.81	25,981.81	4,077.00	30,058.81	0.00
15 Local Labor (Nursery Attendant.)	9,000.00	3,941.19	3,941.19		3,941.19	0.00
<b>19 Component Total:</b>	<b>34,000.00</b>	<b>34,000.00</b>	<b>29,923.00</b>	<b>4,077.00</b>	<b>34,000.00</b>	<b>0.00</b>
<b>20</b> <i>SUB - CONTRACTORS</i>						
21 Sub-contractors	25,000.00	11,302.11	4,284.56	4,035.00	8,319.56	2,982.55
<b>29 Component Total:</b>	<b>25,000.00</b>	<b>11,302.11</b>	<b>4,284.56</b>	<b>4,035.00</b>	<b>8,319.56</b>	<b>2,982.55</b>
<b>30</b>						
31.1 Duty Travel National Experts (DSA)	1,500		-	-	-	0.00
31.2 Duty Travel Supporting Staff (DSA)	800	113.43	113.43	0	113.43	0.00
31.3 Duty Travel (Driver)	0	-				
32 Duty Travel (Fuel)	10,000	-	-	-	-	-
33.1 Transport and Accommodation	3,000		-	-	-	-
<b>39 Component Total:</b>	<b>15,300</b>	<b>113.43</b>	<b>113.43</b>	<b>0</b>	<b>113.43</b>	<b>0.00</b>
<b>40</b> <i>CAPITAL ITEMS</i>						
42 4WD vehicle	35,000	35,000.00	35,000.00		35,000.00	0.00
43 Computer and accessories	3,000	1,552.56	1,552.56		1,552.56	0.00

	<b>49</b>	<b>Component Total:</b>	<b>38,000</b>	<b>36,552.56</b>	<b>36,552.56</b>	<b>0</b>	<b>36,552.56</b>	<b>0.00</b>
<b>50</b>	<b>CONSUMABLE ITEMS</b>							
	51	Livelihood tools and materials	24,000	47,230.04	43,167.57	5,542.00	48,709.57	-1,479.53
	52	Nursery preparation tools and materials	16,000	27,164.41	27,164.41	0	27,164.41	0.00
	53	Seedling production tools and materials	10,000	12,413.46	12,413.46	0	12,413.46	0.00
	54	Planting materials and tools	25,000	34,711.01	22,185.09	9,549.00	31,734.09	2,976.92
	55	Spares (Vehicle maintenance	5,000	922.00	380.00	542.00	922.00	0.00
	56	Office supplies	6,000	5,011.68	3,666.68	1,345.00	5,011.68	0.00
	<b>59</b>	<b>Component Total:</b>	<b>86,000</b>	<b>127,452.60</b>	<b>108,977.21</b>	<b>16,978.00</b>	<b>125,955.21</b>	<b>1,497.39</b>
<b>60</b>	<b>MISCELLANEOUS</b>							
	61	Airtime charges and radio jingles	500	-				0.00
	63	Printing of guidelines	5,000	5,000.00	0	0	0	5,000.00
	64.1	Meeting	5,000	2,425.21	2,066.21	359.00	2,425.21	0.00
	65	Workshop	9,000	6,271.50	2,677.61	0	2,677.61	3,593.89
	66.1	Training	10,000	2,550.82	916.65	10,273.00	11,189.65	-8,638.83
	66.2	Lunch and refreshment	6,000	2,119.78	2,119.78	0	2,119.78	0.00
	66.3	Training materials	8,000	0.00	0	0	0	0.00
	67	Auditing	5,000	8,031.99	4,031.99	1,539.00	5,570.99	2,461.00
	68	Steering Committee meetings	-	-				
	<b>69</b>	<b>Component Total:</b>	<b>48,500</b>	<b>26,399.30</b>	<b>11,812.24</b>	<b>12,171.00</b>	<b>23,983.24</b>	<b>2,416.06</b>
<b>70</b>	<b>NATIONAL MANAGEMENT COSTS</b>							
	72	Focal Point Monitoring	-		-	-	-	
	<b>79</b>	<b>Component Total:</b>	<b>-</b>		<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>80</b>	<b>PROJECT MONITORING AND ADMINISTRATION</b>							
	81	ITTO Monitoring and review						
	82	ITTO mid-term, final, ex-post						
	83	ITTO Programme Support Costs						
	<b>89</b>	<b>Component Total:</b>						
<b>100</b>		<b>Grand Total:</b>	<b>249,800</b>	<b>235,820</b>	<b>191,663.00</b>	<b>37,261.00</b>	<b>228,924.00</b>	<b>6,896.00</b>

**Project Financial Statement**

**Period: 1 May 2022 to 30 November 2022**

**Project No:** PD 898/13 Rev.2 (F)

**Project Title:** Community Based Restoration and Sustainable Management of Vulnerable Forests of the Rewa Delta, Viti Levu

Component		Original	Modified	Expenditures To-date			Available Funds
		Amount	Amount (A) [After shortfall of funds]	Accrued 2015-30 April 2022 (B)	Expenditure 1 May 2022-30 Nov 2022 (C)	Total (D) {B+C}	(E) {A-D}
	Funds managed by Executing Agency	<b>249,800</b>	<b>235,820</b>				
<b>10</b>	<b><i>PROJECT PERSONNEL</i></b>						
	12 Project Coordinator	25,000.00	30,058.81	30,058.81		30,058.81	0.00
	15 Local Labor (Nursery Attendant.)	9,000.00	3,941.19	3,941.19		3,941.19	0.00
	<b>19 Component Total:</b>	<b>34,000.00</b>	<b>34,000.00</b>	<b>34,000.00</b>		<b>34,000.00</b>	<b>0.00</b>
<b>20</b>	<b><i>SUB - CONTRACTORS</i></b>						
	21 Sub-contractors	25,000.00	11,302.11	8,319.56	2,982.55	11,302.11	0.00
	<b>29 Component Total:</b>	<b>25,000.00</b>	<b>11,302.11</b>	<b>8,319.56</b>	<b>2,982.55</b>	<b>11,302.11</b>	<b>0.00</b>
<b>30</b>							
	31.1 Duty Travel National Experts (DSA)	1,500		-	-	-	0.00
	31.2 Duty Travel Supporting Staff (DSA)	800	113.43	113.43	0	113.43	0.00
	31.3 Duty Travel (Driver)	0	-				
	32 Duty Travel (Fuel)	10,000	-	-	-	-	-
	33.1 Transport and Accommodation	3,000		-	-	-	-
	<b>39 Component Total:</b>	<b>15,300</b>	<b>113.43</b>	<b>113.43</b>	<b>0</b>	<b>113.43</b>	<b>0.00</b>
<b>40</b>	<b><i>CAPITAL ITEMS</i></b>						
	42 4WD vehicle	35,000	35,000.00	35,000.00		35,000.00	0.00
	43 Computer and accessories	3,000	1,552.56	1,552.56		1,552.56	0.00
	<b>49 Component Total:</b>	<b>38,000</b>	<b>36,552.56</b>	<b>36,552.56</b>	<b>0</b>	<b>36,552.56</b>	<b>0.00</b>
<b>50</b>	<b><i>CONSUMABLE ITEMS</i></b>						



	51	Livelihood tools and materials	24,000	47,230.04	48,709.57	0	48,709.57	-1,479.53
	52	Nursery preparation tools and materials	16,000	27,164.41	27,164.41	0	27,164.41	0.00
	53	Seedling production tools and materials	10,000	12,413.46	12,413.46	0	12,413.46	0.00
	54	Planting materials and tools	25,000	34,711.01	31,734.09	0	31,734.09	2,976.92
	55	Spares (Vehicle maintenance	5,000	922.00	922.00	0	922.00	0.00
	56	Office supplies	6,000	5,011.68	5,011.68	0	5,011.68	0.00
	59	<b>Component Total:</b>	<b>86,000</b>	<b>127,452.60</b>	<b>125,955.21</b>	<b>0</b>	<b>125,955.21</b>	<b>1,497.39</b>
<b>60</b>	<b>MISCELLANEOUS</b>							
	61	Airtime charges and radio jingles	500	-				0.00
	63	Printing of guidelines	5,000	5,000.00	0	0	0	5,000.00
	64.1	Meeting	5,000	2,425.21	2,425.21	0	2,425.21	0.00
	65	Workshop	9,000	6,271.50	2,677.61	1,452.45	4,130.06	2,141.44
	66.1	Training	10,000	2,550.82	11,189.65	0	11,189.65	-8,638.83
	66.2	Lunch and refreshment	6,000	2,119.78	2,119.78	0	2,119.78	0.00
	66.3	Training materials	8,000	0.00	0	0	0	0.00
	67	Auditing	5,000	8,031.99	5,570.99	2,461.00	8,031.99	0.00
	68	Steering Committee meetings	-	-				
	69	<b>Component Total:</b>	<b>48,500</b>	<b>26,399.30</b>	<b>23,983.24</b>	<b>3,913.45</b>	<b>27,896.69</b>	<b>-1,497.39</b>
<b>70</b>	<b>NATIONAL MANAGEMENT COSTS</b>							
	72	Focal Point Monitoring	-		-	-	-	
	79	<b>Component Total:</b>	<b>-</b>		<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>80</b>	<b>PROJECT MONITORING AND ADMINISTRATION</b>							
	81	ITTO Monitoring and review						
	82	ITTO mid-term, final, ex-post						
	83	ITTO Programme Support Costs						
	89	<b>Component Total:</b>						
<b>100</b>		<b>Grand Total:</b>	<b>249,800</b>	<b>235,820</b>	<b>228,924.00</b>	<b>6,896.00</b>	<b>235,820.00</b>	<b>0.00</b>

  
**Maciu L Waqa**  
**Principal Accounts Officer**  
**Ministry of Forests**

**Project Financial Statement**


**Period: Up to 9 December 2022**

**Project No:** PD 898/13 Rev.2 (F)

**Project Title:** Community Based Restoration and Sustainable Management of Vulnerable Forests of the Rewa Delta, Viti Levu

Component	Original	Modified	Expenditures To-date			Available Funds
	Amount	Amount (A) [After shortfall of funds]	Accrued (B)	Expended up to 30 Nov 2022 (C)	Total (D) {B+C}	(E) {A-D}
Funds managed by Executing Agency	<b>249,800</b>	<b>235,820</b>				
<b>10</b> <i>PROJECT PERSONNEL</i>						
12 Project Coordinator	25,000.00	30,058.81	0.00	30,058.81	30,058.81	0.00
15 Local Labor (Nursery Attendant.)	9,000.00	3,941.19	0.00	3,941.19	3,941.19	0.00
<b>19 Component Total:</b>	<b>34,000.00</b>	<b>34,000.00</b>	<b>0.00</b>	<b>34,000.00</b>	<b>34,000.00</b>	<b>0.00</b>
<b>20</b> <i>SUB - CONTRACTORS</i>						
21 Sub-contractors	25,000.00	11,302.11	0.00	11,302.11	11,302.11	0.00
<b>29 Component Total:</b>	<b>25,000.00</b>	<b>11,302.11</b>	<b>0.00</b>	<b>11,302.11</b>	<b>11,302.11</b>	<b>0.00</b>
<b>30</b>						
31.1 Duty Travel National Experts (DSA)	1,500		-	-	-	0.00
31.2 Duty Travel Supporting Staff (DSA)	800	113.43	0.00	113.43	113.43	0.00
31.3 Duty Travel (Driver)	0	-				
32 Duty Travel (Fuel)	10,000	-	-	-	-	-
33.1 Transport and Accommodation	3,000		0.00	-	-	-
<b>39 Component Total:</b>	<b>15,300</b>	<b>113.43</b>	<b>0.00</b>	<b>113.43</b>	<b>113.43</b>	<b>0.00</b>
<b>40</b> <i>CAPITAL ITEMS</i>						
42 4WD vehicle	35,000	35,000.00	0.00	35,000.00	35,000.00	0.00
43 Computer and accessories	3,000	1,552.56	0.00	1,552.56	1,552.56	0.00
<b>49 Component Total:</b>	<b>38,000</b>	<b>36,552.56</b>	<b>0.00</b>	<b>36,552.56</b>	<b>36,552.56</b>	<b>0.00</b>
<b>50</b> <i>CONSUMABLE ITEMS</i>						

	51	Livelihood tools and materials	24,000	47,230.04	0.00	48,709.57	48,709.57	-1,479.53
	52	Nursery preparation tools and materials	16,000	27,164.41	0.00	27,164.41	27,164.41	0.00
	53	Seedling production tools and materials	10,000	12,413.46	0.00	12,413.46	12,413.46	0.00
	54	Planting materials and tools	25,000	34,711.01	0.00	31,734.09	31,734.09	2,976.92
	55	Spares (Vehicle maintenance	5,000	922.00	0.00	922.00	922.00	0.00
	56	Office supplies	6,000	5,011.68	0.00	5,011.68	5,011.68	0.00
	59	<b>Component Total:</b>	<b>86,000</b>	<b>127,452.60</b>	<b>0.00</b>	<b>125,955.21</b>	<b>125,955.21</b>	<b>1,497.39</b>
<b>60</b>	<b>MISCELLANEOUS</b>							
	61	Airtime charges and radio jingles	500	-				0.00
	63	Printing of guidelines	5,000	5,000.00	0.00	0	0	5,000.00
	64.1	Meeting	5,000	2,425.21	0.00	2,425.21	2,425.21	0.00
	65	Workshop	9,000	6,271.50	0.00	4,130.06	4,130.06	2,141.44
	66.1	Training	10,000	2,550.82	0.00	11,189.65	11,189.65	-8,638.83
	66.2	Lunch and refreshment	6,000	2,119.78	0.00	2,119.78	2,119.78	0.00
	66.3	Training materials	8,000	0.00	0.00	0	0	0.00
	67	Auditing	5,000	8,031.99	0.00	8,031.99	8,031.99	0.00
	68	Steering Committee meetings	-	-				
	69	<b>Component Total:</b>	<b>48,500</b>	<b>26,399.30</b>	<b>0.00</b>	<b>27,896.69</b>	<b>27,896.69</b>	<b>-1,497.39</b>
<b>70</b>	<b>NATIONAL MANAGEMENT COSTS</b>							
	72	Focal Point Monitoring	-		-	-	-	
	79	<b>Component Total:</b>	<b>-</b>		<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>80</b>	<b>PROJECT MONITORING AND ADMINISTRATION</b>							
	81	ITTO Monitoring and review						
	82	ITTO mid-term, final, ex-post						
	83	ITTO Programme Support Costs						
	89	<b>Component Total:</b>						
<b>100</b>		<b>Grand Total:</b>	<b>249,800</b>	<b>235,820</b>	<b>0.00</b>	<b>235,820.00</b>	<b>235,820.00</b>	<b>0.00</b>

  
**Maciu L Waqa**  
**Principal Accounts Officer**  
**Ministry of Forests**

**ANNEX 2:**

**Project Cash Flow Statement**


**Period: 1 January 2021 to 30 April 2022**

**Project No:** PD 898/13 Rev.2 (F)

**Project Title:** Community Based Restoration and Sustainable Management of Vulnerable Forests of the Rewa Delta, Viti Levu

Component		Reference	Date	Amount		
				in US \$	in FJ \$	
<b>A</b>	<b>Balance of Funds at the beginning of the year</b>			<b>19,357.00</b>	<b>43,174.23</b>	
<b>B</b>	<b>Funds Received From ITTO:</b>					
	1.	First installment				
	2.	Second installment				
	3.	Third installment				
	4.	Fourth installment				
	5.	Fifth installment				
	6.	Sixth Installment	Reserve Bank of Fiji - 2466	10 /02/ 2022	24,800.00	52,554.00
		<b>Total Funds Received</b>			<b>24,800.00</b>	<b>52,554.00</b>
<b>C</b>	<b>Expenditure By Executing Agency:</b>					
<b>10</b>	<b>Project Personnel</b>					
	10	Project Coordinator			4,077.00	9,094.00
	15	Local Labour (Nursery attendants)				
	<b>19</b>	<b>Component Total:</b>			<b>4,077.00</b>	<b>9,094.00</b>
<b>20</b>	<b>Sub-Contractors</b>					
	21	Sub-contractors			4,035.00	9,000
	<b>29</b>	<b>Component Total:</b>			<b>4,035.00</b>	<b>9,000.00</b>
<b>30</b>	<b>Travel</b>					
	31.1	Duty Travel National Experts (DSA)				

	31	Duty Travel Supporting Staff			
	32	Duty Travel (Fuel)			-
	33.1	Transport and Accommodation			-
	<b>39</b>	<b>Component Total:</b>			-
<b>40</b>	<b>Capital Items</b>				
	42	4WD vehicle			
	43	Computer and accessories			
	<b>49</b>	<b>Component Total:</b>			
<b>50</b>	<b>Consumable Items</b>				
	51	Livelihood tools and materials		5,542.00	12,361.00
	52	Nursery preparations tools and			
	53	Seedlings production tools			
	54	Planting materials and tools		9,549.00	21,298.00
	55	Spares (Vehicle maintenance)		542.00	1,210.00
	56	Office supplies		1,345.00	2,999.00
	<b>59</b>	<b>Component Total:</b>		<b>16,978.00</b>	<b>37,868.00</b>
<b>60</b>	<b>Miscellaneous</b>				
	61	Airtime charges and radio jingles		-	-
	63	Printing of guidelines			
	64 .1	Meeting		359.00	800.00
	65	Workshop			
	66 .1	Training		10,273.00	22,914.00
	66 .2	Lunch and refreshment			
	66 .3	Training materials			
	67	Auditing		1,539.00	3,434.00
	68	Steering Committee meetings			
	<b>69</b>	<b>Component Total:</b>		<b>12,171.00</b>	<b>27,147.00</b>
<b>70</b>	<b>National Management Costs</b>				
	72	Focal Point Monitoring		-	-
	<b>79</b>	<b>Component Total:</b>		-	-
<b>Total Expenditures To-Date (C):</b>				<b>37,261.00</b>	<b>83,109.00</b>
<b>Remaining Balance of Funds: (A+B -C):</b>				<b>6,896.00</b>	<b>12,619.00</b>

  
**Maciu L Waqa**  
**Principal Accounts Officer**  
**Ministry of Forests**

**Project Cash Flow Statement**


**Period: 1 May 2022 to 30 November 2022**

**Project No:** PD 898/13 Rev.2 (F)

**Project Title:** Community Based Restoration and Sustainable Management of Vulnerable Forests of the Rewa Delta, Viti Levu

Component		Reference	Date	Amount		
				in US \$	in FJ \$	
<b>A</b>	<b>Balance of Funds at the beginning of the year</b>				<b>19,357.00</b>	<b>43,174.23</b>
<b>B</b>	<b>Funds Received From ITTO:</b>					
	1.	First installment				
	2.	Second installment				
	3.	Third installment				
	4.	Fourth installment				
	5.	Fifth installment				
	6.	Sixth Installment	Reserve Bank of Fiji - 4515	10 /02/ 2022	24,800.00	52,554.00
		<b>Total Funds Received</b>			<b>24,800.00</b>	<b>52,554.00</b>
<b>C</b>	<b>Expenditure By Executing Agency:</b>					
<b>10</b>	<b>Project Personnel</b>					
	10	Project Coordinator			4,077.00	9,094.00
	15	Local Labour (Nursery attendants)			<b>4,077.00</b>	<b>9,094.00</b>
	19	<b>Component Total:</b>				
<b>20</b>	<b>Sub-Contractors</b>					
	21	Sub-contractors			7,411.69	15,179.00
	29	<b>Component Total:</b>			<b>7,411.69</b>	<b>15,179.00</b>
<b>30</b>	<b>Travel</b>					
	31.1	Duty Travel National Experts (DSA)				
	31	Duty Travel Supporting Staff				
	32	Duty Travel (Fuel)			-	-

	33.1	Transport and Accommodation			-	-
	<b>39</b>	<b>Component Total:</b>			-	-
<b>40</b>	<b>Capital Items</b>					
	42	4WD vehicle				
	43	Computer and accessories				
	<b>49</b>	<b>Component Total:</b>				
<b>50</b>	<b>Consumable Items</b>					
	51	Livelihood tools and materials			5,542.00	12,361.00
	52	Nursery preparations tools and				
	53	Seedlings production tools				
	54	Planting materials and tools			9,549.00	21,298.00
	55	Spares (Vehicle maintenance)			542.00	1,210.00
	56	Office supplies			1,345.00	2,999.00
	<b>59</b>	<b>Component Total:</b>			<b>16,978.00</b>	<b>37,868.00</b>
<b>60</b>	<b>Miscellaneous</b>					
	61	Airtime charges and radio jingles			-	-
	63	Printing of guidelines				
	64 .1	Meeting			359.00	800.00
	65	Workshop				
	66 .1	Training			10,273.00	22,914.00
	66 .2	Lunch and refreshment				
	66 .3	Training materials				
	67	Auditing			5,058.31	9,874.00
	68	Steering Committee meetings				
	<b>69</b>	<b>Component Total:</b>			<b>15,690.31</b>	<b>33,587.00</b>
<b>70</b>	<b>National Management Costs</b>					
	72	Focal Point Monitoring			-	-
	<b>79</b>	<b>Component Total:</b>			-	-
<b>Total Expenditures To-Date (C):</b>					<b>44,157.00</b>	<b>95,728.00</b>
<b>Remaining Balance of Funds: (A+B -C):</b>					<b>0.00</b>	<b>0.00</b>

  
**Maciu L Waqa**  
**Principal Accounts Officer**  
**Ministry of Forests**

**Project Cash Flow Statement**

**Period: Up to 9 December 2022**


**Project No:** PD 898/13 Rev.2 (F)

**Project Title:** Community Based Restoration and Sustainable Management of Vulnerable Forests of the Rewa Delta, Viti Levu

Component			Reference	Date	Amount	
					in US \$	in FJ \$
<b>A</b>	<b>Funds Received From ITTO:</b>					
	1.	First installment	Reserve Bank of Fiji - 26764	20/10/2015	\$60,000	127,091.72
	2.	Second installment	Reserve Bank of Fiji - 26764	25/04/2016	\$50,000	103,412.62
	3.	Third installment	Reserve Bank of Fiji - 28769	25/04/2016	\$36,020	74,161.00
	4	Fourth installment	Reserve Bank of Fiji - 2466	29/07/2020	\$40,000	89,216.95
	5	Fifth installment	Reserve Bank of Fiji - 2466	29/07/2020	<u>\$25,000</u>	<u>55,760.59</u>
	6	Sixth Installment	Reserve Bank of Fiji - 4515	10 /02/ 2022	<u>24,800.00</u>	<u>52,554.00</u>
		<b>Total Funds Received</b>			<b>235,820.00</b>	<b>502,196.88</b>
<b>B</b>	<b>Expenditure By Executing Agency:</b>					
<b>10</b>	<b>Project Personnel</b>					
	10	Project Coordinator			30,058.81	64,062.00
	15	Local Labour (Nursery attendants)			3,941.19	4,684.00
	<b>19</b>	<b>Component Total:</b>			<b>34,000.00</b>	<b>68,746.00</b>
<b>20</b>	<b>Sub-Contractors</b>					
	21	Sub-contractors			11,302.11	20,179.00
	<b>29</b>	<b>Component Total:</b>			<b>11,302.11</b>	<b>20,179.00</b>
<b>30</b>	<b>Travel</b>					
	31.1	Duty Travel National Experts (DSA)				
	31.2	Duty Travel Supporting Staff			113.43	370.88
	32	Duty Travel (Fuel)			-	-
	33.1	Transport and Accommodation			-	-



	<b>39</b>	<b>Component Total:</b>			<b>113.43</b>	<b>370.88</b>
<b>40</b>	<b>Capital Items</b>					
	42	4WD vehicle			35,000.00	74,201.00
	43	Computer and accessories			1,552.56	1,890.00
	<b>49</b>	<b>Component Total:</b>			<b>36,552.56</b>	<b>76,091.00</b>
<b>50</b>	<b>Consumable Items</b>					
	51	Livelihood tools and materials			48,709.57	115,328.00
	52	Nursery preparations tools and			27,164.41	121,040.00
	53	Seedlings production tools			12,413.46	8,858.00
	54	Planting materials and tools			31,734.09	22,781.00
	55	Spares (Vehicle maintenance)			922.00	1,385.00
	56	Office supplies			5,011.68	9,475.00
	<b>59</b>	<b>Component Total:</b>			<b>125,955.21</b>	<b>278,867.00</b>
<b>60</b>	<b>Miscellaneous</b>					
	61	Airtime charges and radio jingles				
	63	Printing of guidelines				
	64 .1	Meeting			2,425.21	2,538.00
	65	Workshop			4,130.06	6,186.00
	66 .1	Training			11,189.65	26,433.00
	66 .2	Lunch and refreshment			2,119.78	7,533.00
	66 .3	Training materials				
	67	Auditing			8,031.99	15,253.00
	68	Steering Committee meetings				
	<b>69</b>	<b>Component Total:</b>			<b>27,896.69</b>	<b>57,943.00</b>
<b>70</b>	<b>National Management Costs</b>					
	72	Focal Point Monitoring			-	
	<b>79</b>	<b>Component Total:</b>			-	
<b>Total Expenditures To-Date (B):</b>					<b>235,820.00</b>	<b>502,196.88</b>
<b>Remaining Balance of Funds: (A - B):</b>					<b>0.00</b>	<b>0.00</b>

  
**Maciu L Waqa**  
**Principal Accounts Officer**  
**Ministry of Forests**

## 8. REFERENCES

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## 9. APPENDICES



**Photo 1:** The Prime Minister of Fiji and Minister of Forestry, the Honorable Mr. Josaia Voreqe Bainimarama, the Japanese Ambassador to Fiji H.E Mr. KAWAKAMI Fumihiro, the Japanese Counsellor and Deputy Chief of Mission Mr. TANAKA Kenichiro together with the Permanent Secretary of Forestry, Executive Director Operation and staffs of the Ministry of Forestry.



**Photo 2:** The Prime Minister of Fiji and Minister of Forestry, the Honorable Mr. Josaia Voreqe Bainimarama the Japanese Ambassador to Fiji H.E Mr. KAWAKAMI Fumihiro, the Permanent Secretary of Forestry, Executive Director Operation and the six village headman.



**Photo 3:** The Prime Minister of Fiji and Minister of Forestry, the Honorable Mr. Josia Voreqe Bainimarama and the Japanese Ambassador to Fiji H.E Mr. KAWAKAMI Fumihiko launching the three ITTO videos.



**Photo 4:** The Prime Minister of Fiji and Minister of Forestry, the Honorable Mr. Josaia Voreqe Bainimarama and the Japanese Ambassador to Fiji H.E Mr. KAWAKAMI Fumihiro launching the Community Mangrove Management Guideline.



**Photo 5:** The Japanese Ambassador to Fiji H.E Mr. KAWAKAMI Fumihiro holding the Community Mangrove Management Guideline.



**Photo 6:** Ms. Sheam Satkuru, the Executive Director of the International Tropical Timber Organization (ITTO) delivered a speech for Fiji during the launching of the Community Mangrove Management Guideline and the three ITTO videos.



**Photo 7:** Dr. Hwan Ok Ma, the Project Manager at International Tropical Timber Organization (ITTO) virtually attended the launching of the Community Mangrove Management Guideline and the three ITTO videos.



**Photo 8:** From Left to Right the Japanese Ambassador to Fiji H.E Mr. KAWAKAMI Fumihiko, the Japanese Counsellor and Deputy Chief of Mission Mr. TANAKA Kenichiro, Project Coordinator, ITTO Mr. Aporosa Ramulo Livani and First Secretary - Economic Development Corporation, Mr. YAMADA Yosuke.