United Nations Development Programme

Project title: Building Capacities to Address Invasive Alien Species to Enhance the Chances of Long-term Survival of Terrestrial Endemic and Threatened Species on Taveuni Island, Surrounding Islets and Throughout Fiji			
Country: Fiji	**Implementing Partner:** Biosecurity Authority of Fiji (Ministry of Economy, Public Enterprises, Public Services and Communication)		**Management Arrangements:** National Implementation Modality (NIM)
UNDAF/Country Program Outcome*:* UNDAF for the Pacific Sub-region 2013-2017 UNDAF Outcome Area 1: Environmental management, climate change and disaster risk management UNDAF Outcome 1.1: Improved Resilience of PICTs, with a particular focus on communities, through integrated implementation of sustainable environmental management, climate change adaptation/mitigation, and disaster risk management			
UNDP Strategic Plan Output: UNDP Strategic Plan Environment and Sustainable Development Primary Outcome 2: Output 2.5. Legal and regulatory frameworks, policies and institutions enabled to ensure the conservation, sustainable use, access and benefit sharing of natural resources, biodiversity and ecosystems, in line with international conventions and national legislation			
UNDP Social and Environmental Screening Category: Moderate		**UNDP Gender Marker:** 2	
Atlas Project ID/Award ID number: 00084576		**Atlas Output ID/Project ID number:** 00092525	
UNDP-GEF PIMS ID number: 5589		**GEF ID number:** 9095	
Planned start date: July 2017		**Planned end date:** June 2022	
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Brief project description: Invasive alien species (IAS) are the greatest threat to biodiversity in the Pacific Islands. Numerous IAS have been introduced to Fiji, with significant impacts on natural landscapes and biodiversity. The recent introduction of Giant Invasive Iguana – GII (*Iguana iguana*) – to Fiji represents the first established population of this species in the Pacific and is a potential bridgehead to some of the world's most isolated island ecosystems. GII have already caused harm throughout the Caribbean where they are spreading fast and have significant detrimental effects, including on native biodiversity, agriculture and tourism. Although there are several national and local-level initiatives to address IAS in Fiji, these efforts, lack adequate capacity and an overall comprehensive strategy to ensure a systematic and effective protection of biodiversity-rich and important areas. An effective, systematic and comprehensive eradication effort against GII, before populations grow beyond the point where they can be controlled is currently lacking and urgently needed. The preferred solution requires a suite of preventative measures to reduce IAS incursion and establishment, that will be introduced by this project, including: (i) Strengthened IAS policy, institutions and coordination at the national level to reduce the risk of IAS entering Fiji, including a comprehensive multi-sectorial coordination			

| mechanism to ensure the best possible use of resources and capacities for prevention, management, eradication, awareness and restoration, and capacity building of biosecurity staff; (ii) Improved IAS prevention and surveillance operations at the island level on Taveuni, Qamea, Matagi and Laucala to reduce potential for pest species to enter and establish within the four-island group and move between these islands; (iii) Implementation of a comprehensive eradication plan for GII based on comprehensive survey and public outreach on Taveuni and an increase in removal effort of GII on the islands of Qamea, Matagi, and Laucala; and (iv) Strengthened knowledge management and awareness raising that targets the general public, tour operations and visitors, so as to safeguard the nation from IAS. |

FINANCING PLAN	
GEF Trust Fund	USD 3,502,968
UNDP TRAC resources	USD
Cash co-financing to be administered by UNDP	USD
(1) Total Budget administered by UNDP	**USD** 3,502,968

PARALLEL CO-FINANCING (*all other co-financing that is not cash co-financing administered by UNDP*)	
UNDP	USD 101,096
Government	USD 26,763,418
(2) Total co-financing	USD 26,864,514
(3) Grand-Total Project Financing (1)+(2)	USD 30,367,482

SIGNATURES		
Signature: print name below	**Agreed by Government**	**Date/Month/Year:**
Signature: print name below	**Agreed by Implementing Partner**	**Date/Month/Year:**
Signature: print name below	**Agreed by UNDP**	**Date/Month/Year:**

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List of Abbreviations

AFL	Airports Fiji Limited
BAF	Biosecurity Authority of Fiji
CI	Conservation International
CTS	Chief Technical Specialist
DOE	Department of Environment
EDRR	Early Detection and Rapid Response
EDP	Emergency Response Plan
FIIT	Four island IAS Taskforce
FIST	Fiji Invasive Species Taskforce
FNU	Fiji National University
FRCA	Fiji Revenue and Customs Authority
GEF	Global Environment Facility
GII	Giant Invasive Iguana
GMO	Genetically Modified Organisms
GoF	Government of Fiji
IAS	Invasive Alien Species
IBA	Important Bird Area
IUCN	International Union for the Conservation of Nature
KBA	Key Bird Area
MDG	Millennium Development Goal
MEAs	Multilateral Environmental Agreements
MEPEPSC	Ministry of Economy, Public Enterprises, Public Services and Communications
MOE	Ministry of Environment
MTR	Mid-Term Review
NBSAP	National Biodiversity Strategy and Action Plan
NEC	National Environment Council
NGO	Non-Governmental Organization
NISFSAP	National Invasive Species Framework and Strategic Action Plan
PAO	Project Administrative and Finance Officer
PC	Project Coordinator
PILN	Pacific Invasive Learning Network
PIP	Pacific Invasive Partnership
PIR	Project Implementation Review
PIU	Project Implementation Unit
PPG	Project Preparation Grant
SDG	Sustainable Development Goal
SIP	Stakeholder Involvement Plan
SPC	Secretariat of the Pacific Community
SPREP	Secretariat of Pacific Regional Environment Program
TE	Terminal Evaluation

UNDP	United Nations Development Programme
UNDP CO	United Nations Development Programme Country Office
UNDP RTA	United Nations Development Programme Regional Technical Advisor
USP	University of South Pacific
WPA	Women's Plan of Action
WWF	World Wide Fund for Nature

II.   DEVELOPMENT CHALLENGE

Fiji is an archipelago nation comprised of 332 islands situated in the southern Pacific Ocean. The country covers a total area of some 194,000 km^2, of which the total land area is 18,376 km^2. The two largest islands of Viti Levu and Vanua Levu comprise more than 85% of the total land area. The third largest of the Fijian islands is Taveuni at 434 km^2. The geographic complexity and isolated nature of Pacific islands have led to the development of extremely high levels of terrestrial endemism. More than 946 endemic species are currently recorded from Fiji's terrestrial and freshwater ecosystems (with fewer than 20 currently documented from Fiji's marine ecosystems). About 23% of Fiji's 1,769 vascular plant species are endemic, including an endemic family of primitive tree (Degeneraceae) and all of Fiji's 24 native palm species, with many species endemic to a single island or site. Fiji's 27 endemic bird species (or approximately 25% of the bird species in the country) include the Fiji petrel (*Pseudobulweria macgillivrayi*), the red-throated lorikeet (*Charmosyna amabilis*) – which are both listed as critically endangered by IUCN – as well as the silktail (*Lamprolia victoriae*), Ogea monarch (*Mayrornis versicolor*) and black-faced shrikebill (*Clytorhynchus nigrogularis*), all of which are listed as vulnerable to extinction by IUCN. Reptiles unique to Fiji include the Fijian copper-headed skink (*Emoia parkeri*), Fiji burrowing snake (*Ogmodon vitianus*), Lau central banded iguana (*Brachylophus fasciatus*), Fiji banded iguana (*Brachylophus bulabula*), and Fiji crested iguana (*Brachylophus vitiensis*); are all threatened with extinction. Of Fiji's known 216 native species of land snails, 77% are endemic. In addition, Fiji is home to a range of other unique species of mammals (11.7% are endemic), amphibians (67% are endemic), fish and invertebrates.

The isolated nature and extreme vulnerability of island ecosystems and species to impacts such as habitat destruction and invasive alien species (IAS) has resulted in many species of this region becoming endangered, as outlined above. Much of Fiji's native forests have been impacted and modified by deforestation, commercial and subsistence agriculture, plantation timber production and/or IAS. As biodiversity is a significant source of revenue for Fiji (including tourism) and a direct source of income and livelihood for local communities, the spread of IAS has potential to cause significant economic impacts. As an example, Fiji's gross earnings from tourism for the first quarter of 2009, estimated at USD 83.8 million, is at potential threat from IAS.

The sub-section of the northern division of Fiji that is being considered as an important biosecurity area under the project includes Taveuni Island and the surrounding islets of Qamea, Matagi and Laucala. This region has retained significant forest and wetland ecosystems across its full altitudinal range, and endemic and other native species are better protected in Taveuni than in many other areas of Fiji. Taveuni has not yet been severely impacted by some of the numerous IAS that are established on the larger islands of Viti Levu and Vanua Levu, such as mongoose (*Herpestes javanicus*). However, the Giant Invasive Iguana or GII (*Iguana iguana*), an aggressive invasive pest, was recently introduced to nearby Qamea. GII was imported illegally into Fiji in 2000, and the first free-living record is from 2009. The introduction of GII is cause for concern given that Taveuni is considered one of Fiji's "conservation strongholds". Taveuni is one of only three large islands with no mongoose in the oceanic Pacific. The absence of the mongoose has resulted in the retention not only of many of Taveuni's endemic fauna species but also Fijian endemics that have

been extirpated or are highly threatened on the larger islands of Viti Levu and Vanua Levu, including the endangered Fiji banded iguana (*Brachylophus bulabula*), the endangered Fijian ground frog (*Platymantis vitianus*), the near-threatened Fijian tree frog (*Platymantis vitiensis*), and several lizard species that do not occur on islands with mongoose. The endangered Viti or barred tree-skink (*Emoia trossula*) persists in Taveuni, whereas it has been extirpated from Viti Levu and Vanua Levu by mongoose predation. Taveuni is one of only two remaining large forested landscapes in the Oceanic Pacific that extends from the mountains to the sea. There are three terrestrial protected areas on Taveuni, namely Taveuni Forest Reserve (11,160 ha), Ravilevu Nature Reserve (4,108 ha), and Bouma National Heritage Park (3,769 ha). The island is an IUCN/BirdLife recognized Key Biodiversity Area (KBA), and Taveuni's Highlands are a BirdLife International recognized Important Bird Area (IBA). This IBA supports the majority of the world's silktails (*Lamprolia victoria)*. Bird species endemic to Fiji breed in this IBA, namely the critically endangered red-throated lorikeet (*Charmosyna amabilis*), the vulnerable friendly ground-dove (*Alopecoenas stairi*) and black-faced shrikebill (*Clytorhynchus nigrogularis*). Threatened endemic plants include the critically endangered *Syzygium phaeophyllum*, *Alsmithia longipes* and *Neuburgia macroloba* (endemic to Taveuni). Several invertebrate and mammal species are endemic to Taveuni island itself, including the critically endangered Fijian monkey-faced bat (*Mirimiri acrodonta*) and Taveuni beetle (*Xixuthrus terribilis*), the former of which is known only from a few specimens from the summit forests of the island. It is possible that other endemics are present that are yet to be discovered. For example, a species of endemic blind snake *(Ramphotyphlops* spp.*)*, known from only one specimen, was recently rediscovered on the island. To the east of Taveuni, and in close proximity to it, lie the islands of Qamea (3,400 ha), Laucala (1,000 ha) and Matagi (97 ha). Both Qamea and Laucala are well forested with distinct populations of several bird species. Laucala has been identified as a KBA, and at Qamea a mangrove forest reserve has been proposed but not yet adopted. A distinct population of the Fijian endemic orange dove (*Ptilinopus victor*) is present on Qamea and Laucala. A number of land snails are present on Qamea, including two Fijian endemics, the endangered flax snail (*Placostylus ochrostoma*) and *Omphalotropis hispida*, known only from the original description of the type specimen from Qamea.

Threats and Impacts of Invasive Alien Species

IAS are considered to be possibly the greatest threat to biodiversity in the Pacific Islands. Numerous IAS have been introduced to Fiji, with significant impacts on natural landscapes and biodiversity. Introductions of IAS continue apace. The recent introduction of GII to Fiji represents the first established population of GII in the Pacific and is a potential bridgehead to some of the world's most isolated island ecosystems. GII have already caused harm throughout the Caribbean where they are spreading fast and have been shown to have significant detrimental effects, including on native biodiversity, agriculture and tourism, once population densities become very high. They are also considered a health risk at high densities as they are a potential source of Salmonella. Invasion by GII may adversely affect other fauna through predation, competition, and transmission of parasites and diseases. Moreover, populations of GII may support larger populations of exotic predators, with possible cascading effects to native species. GII have been reported to feed on plants, bird eggs, chicks and snails, posing a potential threat to endemic biota, and they may also compete with other iguanids and ground-nesting birds for nesting areas. GII are vastly more fecund and aggressive than Fiji central banded iguana (*Brachylophus bulabula*) and could impact on remnant

small island populations of native iguana at high GII densities. For example, in the Lesser Antilles, where the endangered *Iguana delicatissima* co-occurs with the introduced GII, the latter has displaced the native ones, in part by out-breeding it. Fiji's native *Brachylophus* iguanids occupy similar niches and habitats to GII and could also be displaced by it. GII also poses a risk to Fiji banded iguana through the possible transmission of iguana-specific diseases, parasites and pathogens. In addition, GII could pose a threat to local food security as they eat crops such as taro (*Colocasia esculenta*), cassava (*Manihot esculenta*) leaves, bele (*Abelmoschus manihot*), tomatoes, cabbage, beans and yams. Because GII burrow in foreshore areas and eat mangroves voraciously, they may also damage and undermine the resilience of natural mangrove ecosystems to storm surges if allowed to reach high densities. In Fiji, GII is known to have established on three islands adjacent to one another, Qamea (where GII was first introduced), Laucala and Matagi. The proximity of these islands to Taveuni, "Fiji's conservation stronghold", is of particular concern. Taveuni has not yet been severely impacted by IAS, but significant high-risk IAS species such as the mongoose and GII are present on nearby islands. Given this and Qamea's proximity to Taveuni, Fiji's 2013 State of the Birds Report notes that it "would be a biodiversity conservation disaster" if GII were to spread to Taveuni. Given that GII has been known to proliferate and expand its range to catastrophic levels under similar climatic conditions present in Fiji, they could be expected to spread to other islands if not prevented, where they would pose a very real threat to Fiji's two threatened native iguanid species as GII populations increased.

Introduced alien predators, including mongooses (*Herpestes javanicus* and *Herpestes fuscus*), rats (*Rattus* spp.), feral cats (*Felis cattus*) and feral pigs have had devastating effects on avifauna and other native animals in Fiji. For example, the small Indian mongoose (*Herpestes javanicus*), introduced intentionally to control rats in the 1880s, preys on many vertebrates and is believed to be responsible for the decline, extirpation or extinction of ground-nesting birds, reptiles and amphibians. Additionally, invasive plants, herbivores, insects and diseases impact on crops, livestock, horticulture, tourism, fisheries and forests, threatening Fiji's economy, human health and agriculture. Fiji is typical of remote islands in the susceptibility of its terrestrial biodiversity to IAS. Invasive species typically replace indigenous fauna and flora through competition, predation, and elimination of natural regeneration, introduction of diseases and parasites and smothering of forests. Mammalian IAS, such as rats, feral cats and other predators, can be devastating to avifauna and small fauna, reducing levels of recruitment.

Fiji's Fifth National Report to the Convention on Biological Diversity highlights the increasing importance of preventing spread of IAS: "Travel within the Fiji group is increasing rapidly and there is a need for measures to be introduced to prevent the spread of established invasive species within Fiji's 300+ islands". The nature of the IAS threat has changed dramatically as a result of increased trade and movement of people through development of tourism and industrial offshore fisheries. This has increased the number of pathways for IAS introduction. This impact is seen in natural areas as well as in productive landscapes. Likely pathways of entry of IAS into Fiji include tourism, travel and transport (including plants, animals and their products, containers and packing materials, vehicles/boats, machinery, shipping and personal effects) and production sectors (including agriculture, forestry, wildlife trade/pets and aquaculture). Examples of IAS not yet present in Fiji that could have a major negative impact in the country include the brown tree snake (*Boiga irregularis*), ants, beetles, mites, Asian gypsy moth and giant African land snail.

The brown tree snake has established a population of 3 million in Guam, causing species extinctions, as well as power outages and health problems. It poses a significant threat to Fiji's biodiversity if it were to invade and successfully establish in the country. The Asian gypsy moth and giant African land snail are known to prey vociferously on more than 500 different plant species and also pose a significant potential threat to Fiji's flora if introduced.

Barriers to addressing IAS in Fiji

While there are several initiatives underway to address IAS in Fiji, these efforts are not adequately capacitated and coordinated to ensure a systematic and effective strategy to prevent introduction and spread of IAS in Fiji or to safeguard biodiversity-rich and important areas such as Taveuni and surrounding islets against the threats and impacts of IAS. The long term solution sought by this project is to transform current baseline investments into a comprehensive approach to prevent, detect, control and manage the introduction and spread of terrestrial IAS through production sectors, transport and other pathways, and to prevent and reduce the impacts of IAS on globally significant biodiversity in vulnerable ecosystems, such as Taveuni and surrounding islets. To achieve this, actions must be taken to strengthen decision-making tools and information resources; to improve institutional coordination; and to increase financial and technical resources across the whole spectrum of intervention measures so as to address the overall management of IAS in the country. Further, biosecurity needs to be extended to include inter-island movement of IAS in order to prevent further spread of high-risk IAS to vulnerable ecosystems that contain biodiversity of global significance. There are four major barriers that currently hinder the development of such a comprehensive biosecurity program in Fiji:

Barrier 1: Incomplete national management framework to support effective and cost-efficient prevention, detection, control and management of terrestrial IAS in Fiji

Although establishment of the Biosafety Authority of Fiji (BAF) through the Biosecurity Promulgation of 2008, was a critical first step in consolidating legal and policy approaches to IAS in Fiji, there is a need for a comprehensive national IAS strategy and action plan to support coordinated, efficient and cost-effective prevention and management of IAS. Coordination among stakeholders and sectors is ad-hoc and a coordination function needs to be institutionalized to facilitate planning and effective implementation. For example, customs and immigration services at the ports can be more efficiently used if these staff members are educated in the identification of IAS. Further, BAF has to date focused on inspections for IAS that pose a threat to agricultural and horticultural production. The coordination and use of expertise in the Ministries of *iTaukei* Affairs, Defense, Environment, Fisheries and Forestry, Immigration, FRCA, Fiji Police and environmental NGOs, working in tandem with BAF, is badly needed to expand efforts to manage IAS that threaten native biodiversity. BAF has established a website that provides some information on IAS, but data are inadequate, putting constraints on national capacities to identify priorities and needs for IAS management. A national database for comprehensive record keeping, operational manuals and training records is lacking. More generally, there are few regulations and little institutional responsibility for spread of IAS to natural ecosystems or for managing their impacts on biodiversity. Additional budgetary resources will be needed to extend management actions to cover IAS

that pose a risk to biodiversity and ecosystem services. Limited information on the invasion status, pathways, distribution, population size, ecology, and the economic, social and environmental impacts of IAS in Fiji hinders efforts to effectively address IAS and their impacts on biodiversity. Risk analyses to determine the highest-risk IAS and their key pathways of introduction are lacking. There is absence of a national list of all IAS that may pose a threat to Fijian biodiversity as well as criteria to classify priority and non-priority IAS at national level. There is no national "blacklist" restricting the importation of high-risk IAS into Fiji. Technical capacities to identify pathways, commodities and organisms that present risk, or to measure the threats and impacts of IAS, are still rudimentary. Information on the economic impacts of IAS (on biodiversity, livelihoods and key economic sectors) and the costs of different interventions is not available. Such concrete information is needed to generate support among policy makers and the general public, including tourists and transport operators, of the cost-effectiveness of a pro-active biosecurity approach to prevention of high-risk IAS entry into Fiji.

Barrier 2: Lack of effective systems and tools for managing inter-island spread of IAS in country and for management of high-risk IAS in priority biodiversity areas

BAF leads efforts to manage IAS in Fiji. There is a need to build the capacity of BAF to ensure systematization of results, standardize basic operating procedures, and clarify roles and responsibilities in relation to mandates and budgets. Threats from IAS to biodiversity, food security, livelihoods and human health posed by rapidly increasing travel and trade within the Fiji group of islands are of increasing concern. Capacity and effective systems for preventing inter-island movement of IAS are currently lacking. Monitoring and surveillance operations are compromised by shortage of funds and appropriate equipment. The range of IAS, the number of pathways by which they travel and the variety of ways they impact native species make single approaches or isolated campaigns insufficient to stem the growing threat posed to biodiversity-rich islands. Protocols to prevent inter-island IAS introductions are needed, as well as campaigns to inform local residents and tourists of the threats posed by IAS and how to prevent introductions. The most effective approach to new IAS incursions is early detection and rapid response (EDRR). However, the necessary response systems, technical capacities and cooperation of local communities are not yet in place to support such actions in biodiversity-rich areas. The recent establishment of pests on some islands, such as GII on Qamea, underscores the need to develop and adopt a standardized rapid response protocol that can be deployed to quickly respond to new incursions. No complete island-by-island inventory exists of IAS or of native species at potential risk from IAS. The absence of a national inventory on blacklist IAS also poses a threat to food security and livelihoods.

Barrier 3: Insufficient capacity and expertise to eradicate IAS like GII that pose a high risk to globally significant biodiversity

Eradication of populations of high-impact IAS is the third leg of a comprehensive biosecurity approach, following prevention and EDRR programs. However, eradication operations in Fiji have had only intermittent success. Fiji needs to develop better institutional capacity for planning and implementing eradication programs to ensure protection of important biodiversity areas. Although many established IAS have already spread too widely across Fiji for eradication to be effective, GII is a relatively recently established pest likely to inflict major negative impacts on native biodiversity, agriculture, tourism and

health and that is only established on a small number of islets. There is strong consensus that GII needs to be removed soon before it proliferates and spreads to the point where it cannot be eradicated, but efforts have been hampered by a lack of funds, appropriate planning, skilled practitioners, including herpetologists, and needed equipment and training. A population model based on results from 2000 population simulations indicates that existing GII populations could be near the end of their establishment phase and that rapid increases in numbers could shortly occur. This demonstrates that any eradication operation should be initiated as soon as possible to prevent anticipated major increases in numbers and range – at which point eradication from Fiji may no longer be possible, even with improved capacity. Eradication of GII can serve as a demonstration project developing the institutional planning and implementation skills needed to achieve eradication of further IAS in Fiji. If such prioritization and planning can ensure eradication in a specific area then such solutions will be of great economic value in securing further support in Fiji for other needed eradications.

Barrier 4: Lack of awareness among the public, key industrial sectors, importers and shipping agents of the risks posed by IAS and the need for biosecurity measures

A lack of awareness among the public, key industrial sectors, importers, freight agents and shipping agents of the harmful impacts of IAS, how IAS enter Fiji and spread among islands, and of the measures needed to prevent this is an important barrier to better IAS prevention. An effective and comprehensive national awareness strategy on IAS and biosecurity is needed, as well as effective documentation of best practices for IAS prevention, detection, control and management.

There is no single initiative in the country that is currently addressing all four aforementioned barriers. However, the proposed GEF-financed project will work in coordination with ongoing efforts and partners to build on recent advances in national biosecurity. The project is aligned with the strategic priorities of the National Biodiversity Strategy and Action Plan (NBSAP) of 2007 and its Implementation Framework that identify control of IAS as critical to the success of biodiversity conservation. The NBSAP proposes priority actions, including: (i) adoption of relevant quarantine regulations; standards and tools to assist in the decision-making processes involved in the importation of exotic species; (ii) strengthening legislation and enforcing heavy penalties on individuals and organizations illegally importing organisms; (iii) increasing public awareness of the risks and impacts of IAS on native ecosystems and biodiversity; and (iv) effective control of invasive and potentially invasive species already present in Fiji. The GEF investment would promote closer cooperation among agencies, sectors and stakeholders in achieving biosecurity; strengthen institutional capacity; develop inter-island quarantine measures and raise public awareness of the threat caused by inter-island traffic in spread of IAS; and establish a database of IAS present in Fiji (these all directly relate to implementing action items under Objective 5.2 which calls for "Effective control of invasive and potentially invasive species present in Fiji"). In addition, the project will contribute to achieving the Aichi Targets, in particular strategic goal B (Reduce the direct pressures on biodiversity and promote sustainable use), Target 9 (By 2020, invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent introduction and establishment, strategic goal C (To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity), and Target 12 (By 2020, the extinction of known

threatened species has been prevented and their conservation status, particularly of those most in decline, has improved and sustained). The project also contributes to the post-2015 development agenda and the Sustainable Development Goals particularly SDG 15 to halt biodiversity loss. It will also support SDG2 to end hunger and achieve food security.

Baseline Scenario

The National Biodiversity Strategy and Action Plan (NBSAP) of 2007 and its Implementation Framework (2010-2014; currently under review), are indicative of the strong commitment of the Government of Fiji to biodiversity conservation. The NBSAP identified seven key thematic areas, with targets in the Implementation Framework. The seven thematic areas are: Forest conversion management, Invasive alien species, Inshore fisheries, Coastal development, Species conservation (threatened and endangered species in trade and domestic consumption); Protected areas, and Inland waters. Specific actions contemplated under the IAS thematic area included: identification of potential pathways of accidental introductions, establishment of a national IAS database, research on the integration of impacts of IAS on biodiversity and commercial values, completion of a legislative gap analysis for IAS, development of a draft over-arching national IAS management strategy, national control programs for priority species, quarantine committee strengthened to include broader stakeholder input into the decision-making processes, bio-security bill implementation initiated, increased coordination between key Government departments, effective implementation of national IAS policies, strategies, programs and initiatives, and IAS awareness programs at all ports of entry into Fiji, as well as at major inter-island transport locations.

The establishment of the Biosecurity Authority Fiji (BAF) and the Biosecurity Promulgation 2008 is a further demonstration of government's recognition and commitment to respond to IAS as a national priority. Under the guidance of its Board and the Chief Executive Officer and Board, BAF is mandated by the Biosecurity Promulgation of 2008 to prevent the introduction and establishment of foreign pests and diseases in Fiji. BAF's scope stands at the pre-border, border and post-border operations where potential pathways of IAS are regulated. The Biosecurity Promulgation of 2008 provides teeth to Fiji's fight against IAS as it allows prosecution of individuals and/or organizations illegally importing such species. With the Biosecurity Promulgation of 2008, the scope of responsibility for BAF has widened to cover both IAS and genetically modified organisms (GMOs). These added activities have required the sharing of information and strengthening of networks among Government, scientific institutions, and NGO's. BAF has 18 facilities throughout the country and another nine are planned or under development. BAF has over 200 staff, of which more than 118 are front-line biosecurity officers. Fiji has established a variety of IAS emergency response plans (ERPs), including response plans for GII. Various IAS projects and partnerships also exist, including a project examining IAS as a carrier of disease vectors, which partners BAF and the University of the South Pacific (USP) to examine the role of snails as disease vectors within Fiji.

The Department of Environment, with BAF as mandated authority, also addresses IAS under Thematic Area 2 of the NBSAP, which defines specific strategies and objectives to assist Fiji in addressing IAS. The NBSAP defines the required actions to achieve the objectives and strategies that will effectively manage and control IAS. Every year, the Government of Fiji supports the functions of BAF with about USD 6 million

for surveillance and monitoring of plant and animal pests, emergency response preparedness, biosecurity awareness and information management, entry-point and border operations, and eradication of IAS and pests. Additionally, annual revenues of BAF (amounting to around USD 4 million) are channeled to surveillance, monitoring and quarantine.

The National Environment Management Act of 2005 established the National Environment Council (NEC) that oversees the approval of national strategies and plans; monitors their implementation; facilitates discussion on environmental issues; advises and oversees commitments relating to regional and international treaties, conventions, and agreements on the environment; and appoints technical committees to advise on specific environmental protection and resource management issues. In 2011, the NEC set up the Fiji Invasive Alien Species Task Force (FIST) to help strengthen capacity and resources of key stakeholders to address IAS and serve as a formal committee for IAS under the NEC. Chairmanship of FIST rests with BAF as the mandated authority, and currently BAF is working with the Department of Environment to refine the terms of reference of FIST as proper terms of reference were not established earlier. The Department of Environment spends around USD 700,000 annually for supporting monitoring and implementation of the NBSAP, which is currently under review.

A number of other government agencies closely partner with BAF in biosecurity-related activities in Fiji. The Fiji Revenue and Customs Authority (FRCA) collaborates with BAF to oversee responsibility for biosecurity and customs functions at international airports, parcel post facilities, and freight centers in the country and collaborates with BAF to ensure that goods harboring exotic weeds, pests, and diseases that would adversely affect and harm Fiji's unique flora and fauna, environment, agriculture, livestock, tourism, or health of its communities are not brought into the country. FRCA and BAF jointly spend resources on scanning and X-ray facilities and operations, dog units, intelligence and data management systems that are also used for biosecurity functions. The Airports Fiji Limited (AFL), in close collaboration with BAF, undertakes surveillance and monitoring of incoming and outgoing passengers at Nadi and Nausori international airports. For this purpose, AFL spends around USD 600,000 annually for contracting services for the operation of X-ray machines and scanners for baggage screening and holding, and incinerators at these two airports. All arriving international airlines are currently required to show biosecurity videos, 100% of incoming mail is screened with X-ray machines at the international mail facility, 100% of air baggage is screened at the port of entry, and 100% of high-risk goods are inspected at international seaports.

Fiji National University (FNU) provides specialized courses in plant and animal disease control, biosecurity and quarantine, IAS control and management, and economic evaluation of costs of IAS for Bachelor and Diploma students amounting to around USD 2.2 million annually. The University of the South Pacific (USP) engages in taxonomic and biotic survey data collection and provides training in taxonomic identifications. Other agencies that partner with BAF in addressing biosecurity-related concerns include the Ministries of Agriculture, Fisheries and Forestry, Tourism, *iTaukei* Affairs, and Health and Medical Services, as well as the Fiji Police Force. BAF is the focal point for the International Plant Protection Convention (IPPC) and World Organization of Animal Health (OIE) standards setting body for plants and animals respectively. The Ministry of Fisheries and Forestry supports treatment of all lumber in Fiji, runs sentinel traps at the docks

in Suva as a first alert for forestry pest arrivals, and undertakes pest risk analysis for incoming seeds and plants. BAF undertakes pest risk analysis for incoming seeds and plants and issues import permits. The Department of Education currently undertakes awareness through inclusion of IAS education in the classroom, while the Ministry of *iTaukei* Affairs runs community awareness programs in villages around the nation. In addition, a number of non-governmental organizations have been active in biodiversity conservation, including Bird Life International and Conservation International (CI). Bird Life International is involved with mammal eradication work on 40 islands in the Pacific, including 11 in Fiji. CI focuses on protected areas and works with communities in conservation efforts. The National Trust of Fiji supports programs for protecting cultural and national heritage sites such as the Bouma National Heritage Park in Taveuni, a critical habitat that needs protection from IAS within the four-island area. The Secretariat of Pacific Regional Environmental Program (SPREP) is involved with ecosystem and socio-economic resilience analysis and mapping in sites of Macuata Province and Taveuni.

III.   STRATEGY

The problem that Fiji faces is the lack of a comprehensive overall strategy for reducing the threat from new IAS. The preferred solution is through a multi-tier strategy that includes improved preventative measures at points of entry into the country, early detection and rapid response programs to eradicate new incursions, improved capacity to conduct eradications of long-established invasive species, and improved public awareness to enhance understanding of the centrality of IAS programs for protecting livelihoods of the general population. Prevention and quarantine elements currently exist for Fiji, but these efforts are not comprehensive. Numerous existing biosecurity elements require improvement and additional elements need to be implemented to reduce the potential of new IAS arriving and establishing.

To better protect the Fiji islands, a suite of preventative measures against IAS incursion and establishment is required. These measures need to be supported by appropriate laws and regulations and with adequate funding, staffing and equipment. To ensure that the most appropriate suite of preventive measures can be implemented, a clear understanding of existing biosecurity capacity is necessary. What is more, a clear understanding of which IAS are already present and where they are established, and which non-established organisms pose the highest risk of invasion will greatly facilitate prevention of further IAS damage in Fiji. Part of the strategy will necessitate pathway analysis to understand how best to address existing and likely future modes of invasion (e.g. transit of persons and goods to Fiji and among these islands) that will help determine what prevention activities need to be improved to ensure comprehensive coverage. Understanding invasion pathways allows for development of strategic approaches for prevention of IAS, such as:

- Preparing for the arrival of IAS known to be a potential risk to Fiji (and other species of uncertain status that may be determined via risk assessment to be potential IAS if permitted to establish)
- Developing monitoring systems for as yet unknown potentially IAS applicable in specific areas or industries
- Establishing barriers (physical, legislative and community-managed) to the introduction of

> unwanted organisms

- Impeding the spread of IAS that have already entered the country
- Developing and implementing strategies to eradicate IAS that have entered the country, but are not widespread
- Developing awareness to support biosecurity preventative measures.

Obvious pathways of introduction both to and within Fiji are air and sea services. International air and sea services may bring new invaders to the country, whereas domestic air and sea services spread invaders to new locations within the country. An example of a very specific pathway for the spread of American foulbrood would be beekeeping equipment. Moving this equipment from one hive to another spreads the spores that cause this disease. Assessing the risk of spread of IAS is important the allocation of scarce resources for the control of established invasive species. Information on pathways of introduction and spread should be included in any IAS management plans developed for Fiji and/or areas within the country. Inventories of species including both native and known IAS are needed for Fiji's key trading partners so as identify high-risk IAS that are not already established in Fiji. Such an inventory needs to be created to facilitate developing appropriately preventative measures.

A sub-section of the northern division of Fiji that includes Taveuni Island and the surrounding islets, where GII has established, is being considered as the main focus of the GEF project. This sub-section is composed of the islands of Taveuni, Qamea, Matagi and Laucala (Figures 1 and 2). Taveuni is by far the largest of the four islands and serves as the gateway for goods and people transiting to Qamea, Matagi and to some extent Laucala (although Laucala also receives items directly from the main Fijian island of Viti Levu). The project focus on biosecurity improvements and eradication of GII in the four islands would serve as a national trial site, with the ultimate goal of improving protection against IAS that could be subsequently scaled up throughout the nation under a longer-term Government of Fiji program.

The project's Theory of Change outlining how the project activities combine to address the barriers and achieve desired outcomes is shown in Figure 3 (and the associated Table 1).

Figure 1: Map of Fiji Islands

Figure 2: Map of Taveuni Island and islets
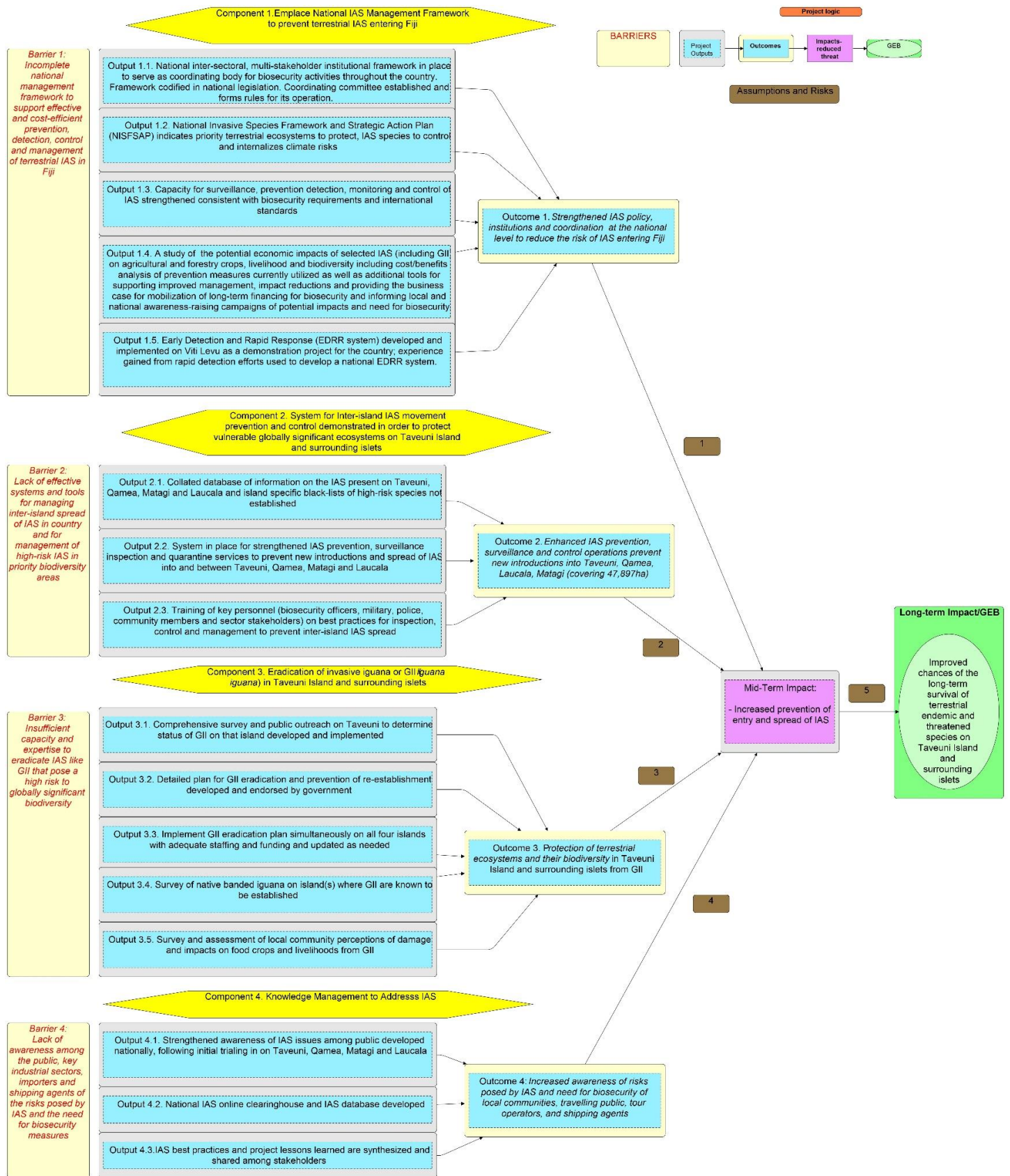
Figure 3. Theory of Change (also see Table 1)

Table 1. Assumptions and risks for the project Theory of Change (Figure 1)[1]

Number	Assumptions	Risks
1	National inter-sectoral, multi-stakeholder institutional framework for biosecurity will have appropriate staff and funding from the Government to ensure its effective functioning. The framework that will contribute to strengthened IAS institutions and coordination at the national level to reduce the risk of IAS entering Fiji and implementation of NISFSAP will be backed up by government willingness to adopt legislative reform (Outcome 1.)	Government funding for appropriate functioning of the framework and NISFSAP may be insufficient due to possible changes of national priorities or financial crisis. Stakeholders (agencies and sectors) in the framework may be unwilling to cooperate and exchange information due to other corporate priorities, challenging the potential to work collaboratively and the implementation of NISFSAP and establishing comprehensive pre-border and border biosecurity.
2	There will be government recognition and willingness to provide staff and additional resources to implement comprehensive strategy for IAS prevention and surveillance in the four-island system and develop EDRR capacity. Government will provide adequate regulations, infrastructure and equipment to support improved inspection services (Outcome 2).	Establishment of new high-risk IAS within new and emerging trade routes and with market-driven changes to pathways and vectors cannot be fully anticipated. The invasiveness of many species is unknown, making it difficult to determine exactly which species training should focus on.
3	Protection of terrestrial ecosystems and their biodiversity will have Government of Fiji significantly increase its efforts and continued commitment through to final eradication of GII, well beyond the GEF project duration. GII are not already established on Taveuni and populations are only confined to Qamea, Laucala and Matagi (Outcome 3).	GII might be difficult to detect and as a consequence agency and staff interest may wane with time. Lack of understanding of the need for long-term commitment to ensure success in eradication might undermine initial eradication successes.
4	Recognition that IAS impacts everyone at all levels will ensure that prevention and management efforts receive public and government support, ensuring their continuance and maximize their effectiveness. Stakeholders responsible for hosting database systems, providing data and information and making use of information are willing to collaborate and share information and resources openly (Outcome 4).	Actions among the assorted agencies and NGOs remain uncoordinated and their priorities may be different than the government's priorities. Lack of commitment of resources, information and personnel to move awareness programs forward.
5	National and international macroeconomic conditions remain stable. Politicians, local communities, tour operators, resort owners, importers and shipping agents recognize the benefits of IAS prevention and control. Willingness of institutions to share responsibilities and work collaboratively.	Lack of continuing level of political support for project interventions on biosecurity, eradication of GII, and financial support for implementation of regulations and biosecurity prevention measures. Poor or lack of long-term commitment of budget and staffing resources, infrastructure and equipment for IAS surveillance and monitoring.

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[1] For ease of presentation, the matrix is simplified collating assumptions and risks at the outcome level. Risks and assumptions operating on individual outputs are detailed in the Results Framework.

IV.   RESULTS AND PARTNERSHIPS

i.   <u>Expected Results:</u> The GEF funding requested by the Government of Fiji will be used to improve the chances for long-term survival of terrestrial endemic and threatened species on Taveuni Island, surrounding islets and throughout Fiji by building national and local capacities to manage IAS. This would be achieved through the implementation of the following four Outcomes that have been designed to achieve this aim and overcome the barriers discussed earlier:

- Outcome 1: ***Strengthened IAS policy, institutions and coordination at the national level to reduce the risk of IAS entering Fiji***. The project will strengthen policy, institutions, coordination and outreach efforts on biosecurity across Fiji and develop a national coordination mechanism to facilitate effective communication, coordination and participation among stakeholders and to leverage increased funding for biosecurity.

- Outcome 2: ***Improved IAS prevention and surveillance operations at the island level on Taveuni, Qamea, Matagi and Laucala***. The project will strengthen capacity within BAF and its partner agencies to emplace a system for IAS prevention, surveillance, monitoring, early detection and control to reduce introductions and inter-island spread of IAS.

- Outcome 3: ***Long-term measures for protection of terrestrial ecosystems and their biodiversity in the selected islands.*** The project will help develop a detailed plan for eradication of GII and implement this plan in Taveuni and surrounding islets, as a trial with potential for further replication for eradication of other IAS in Fiji.

- Outcome 4: ***Strengthened awareness, knowledge management, monitoring and evaluation in regards to invasive alien species and biosecurity.*** The project will develop and implement a comprehensive outreach program to broaden awareness and concern regarding IAS.

Outcome 1: Strengthened IAS policy, institutions and coordination at the national level to reduce the risk of IAS entering Fiji (Total Cost: USD 16,809,874, GEF: USD 1,010,000: Co-financing: USD 15,799,874)

Achievement of Outcome 1 is supported through the following outputs:
1.1. Establishing a functional national level, multi-agency, multi-sector coordinating body for IAS activities, including biosecurity and management codified in the national legislation.
1.2. Completing a National Invasive Species Framework and Strategic Action Plan (NISFSAP) and its endorsement by National Environment Council.
1.3. Improving biosecurity capacity for surveillance, prevention, detection, monitoring and control; of IAS in the country.
1.4. Identifying potential economic impacts of selected IAS to make a business case for mobilization of long-term financing for biosecurity and inform awareness of IAS impacts.
1.5. Trialing a National-level Early Detection and Rapid Response (EDRR) program in Viti Levu.

Baseline conditions for this outcome (without GEF project):

Communities throughout Fiji, and their economies, livelihoods, quality of life, culture, food security, ability to address climate change, health and other components of their society are threatened by established IAS and species which have the potential to become established (both known and unknown species). Without the proposed biosecurity project, biosecurity for Fiji remains at or around its current level with some improvements over time, but without a clear comprehensive strategy or coverage, or comprehensive legislation to advance biosecurity. No biosecurity inspection services are now provided for domestic flights nor will they be in the foreseeable future. Systematic coverage of domestic watercraft inspections is not feasible under current planning given the combination of a lack of staff, resources and facilities. The potential for new non-native species to arrive and establish in Fiji and cause harm to various sectors or segments of society remains high. The potential for established IAS to spread further within the country also remains elevated.

There will likely be no effective overall IAS whole-of-government planning document that will be developed in the foreseeable future, resulting in an under-capacitated and uneven IAS management system that does not support synergistic, multi-party use of resources including cross-agency planning and action implementation. No national Early Detection and Rapid Response (EDRR) plan will be developed and no comprehensive EDRR capacity will be developed for Viti Levu or other locations within the country. This lack of EDRR planning, established resources, and EDRR protocols currently prevents Fiji from responding adequately and effectively to new IAS incursions.

Alternative for this outcome (with GEF project):

A multi-agency national IAS committee will be established. This committee will lead efforts to address IAS issues and concerns for Fiji in a comprehensive multi-sectorial manner, ensuring the best possible use of resources and capacities and ensuring the best possible outcomes, including prevention, management, eradication, awareness and restoration as needed and when feasible.

A national IAS strategy and action plan will be developed to guide and support efforts throughout Fiji to comprehensively and strategically address IAS issues and concerns. This national strategy will provide a pathway forward to address prioritized IAS issues at both the national and local levels. Detailed background information regarding IAS, their threats and impacts will be part of the National Invasive Species Framework and Strategic Action Plan (NISFSAP) development. This strategy will include an analysis of IAS pathways and document current capacity, including gaps, in regards to addressing relevant IAS concerns.

Ensuring that pre-border and border biosecurity elements are comprehensive, in place and functional is the primary method for protecting Fiji from the arrival and establishment of additional harmful pests. Implementing trade requirements such as specific sanitation measures and other pre-border biosecurity requirements is the best possible mechanism for reducing the risk of unwanted non-native species from establishing. Ensuring 100% compliance with risk assessments and improving overall border biosecurity will improve preventative measure beyond current capacity, again reducing the likelihood of new pest

species establishing. Prevention is more cost effective than long-term management or eradication efforts. Prevention can be applied across the spectrum of organisms while successful management and eradication tools are not available for all organisms. By preventing unwanted organisms from establishing, there will be fewer detrimental impacts from newly-established IAS, resulting in lower impacts to the country, its citizenry, natural resources, and food security.

While it is critical to ensure that pre-border and border biosecurity efforts are as comprehensive as feasible – as this is the best and most cost effective method of ensuring that new IAS do not become established – it must be understood that even the best biosecurity system will never be 100% effective. Therefore, it is important to develop capacity to both detect and respond to IAS that may arrive within the country. An IAS Early Detection and Rapid Response (EDRR) mechanism will be developed and trialed on Viti Levu. Developing a trial EDRR system on Viti Levu will allow multi-sectorial partners to gain experience working collaboratively to detect, identify, and remove incipient pest populations, and it will allow for barriers and limitations in the system to be identified and corrected before expanding the program nationwide. Viti Levu is the logical location to initiate EDRR in Fiji as it receives most new IAS incursions and it has the greatest concentration of agency and academic capacity needed to implement such a program. Once developed and operationalized on Viti Levu, the EDRR model can be expanded to the remainder of the country.

The GEF alternative will provide technical support, training and limited equipment for strengthening pre-border, border and post-border biosecurity, compilation of IAS information for Fiji and development of a NISFSAP and strengthened biosecurity legislation, development of a BAF IAS database including black and white lists of organisms, guidelines for determining black and whitelists, development of a BAF multi-year strategy, development of a national-level EDRR program trialed in Viti Levu, capacity building of biosecurity officers and cross training of front-line staff from other front-line agencies to help improve biosecurity inspection services at key national and domestic seaports and airports, and improving understanding of potential economic impacts of IAS. Government co-financing support from BAF and other agencies will finance the improvement of inspection services at international and domestic airports and seaports, improved incineration facilities and up-gradation of laboratory facilities, improved detection and inspections, rapid response measures, and additional staff.

Output 1.1 Functional national level, multi-agency, multi-sector coordinating body for IAS activities, including biosecurity and management codified in the national legislation

A national level IAS committee will provide a multi-stakeholder approach to IAS biosecurity and management activities and ensure that resources and country-wide capacity are being utilized effectively and synergistically as various departments, agencies and offices support IAS prevention and management. The national IAS committee will bring together government agencies and statutory authorities with a mandate related to and/or responsibilities related to IAS management in Fiji.

A review of existing and potential coordination mechanisms will be completed to identify the most appropriate structure, governance and administrative arrangements for this national committee. This

review will consider the option of utilizing the existing National Environmental Council (NEC) that reports to the Minister of Environment and Cabinet of Fiji. The NEC has legal status and is multi-sectorial and at a level where it can and does provide coordination as well as inform leadership and policy makers regarding IAS concerns. The review led by the government of Fiji will consider factors including national legislation, the mandates of existing coordination mechanisms, and with the view of utilizing resources efficiently. The government's determination of whether NEC, a working group for NEC or a similar mechanism apart from or in conjunction with NEC is the most appropriate and functional place for a national IAS coordinating body is still underway. It is expected that a decision on the most appropriate coordination and governance arrangements will be agreed by project inception.

If this review finds that NEC is not the most effective mechanism then it will consider the legislative options which addressed and will define the arrangements for the establishment of a new functional national level, multi-agency, multi-sector IAS committee codified in the national legislation to oversee and coordinate IAS management. The project will support the drafting of Terms of Reference, membership, and governance and administrative arrangements. This national IAS committee would also be supported by Fiji Invasive Species Taskforce (FIST), a technical advisory group of IAS specialists and others who work daily with biosecurity and other IAS concerns and which can support the coordination body in regards to providing technical information and details regarding IAS and IAS-related issues. FIST that was established by the NEC is being currently reconstituted and would serve as an advisory group to the proposed national coordination body. The reconstituted FIST will be Chaired by and administered by BAF.

Indicative GEF-funded activities under Output 1.1 include:
- Establishment of national level, multi-agency, multi-sector IAS committee or use of the National Environmental Council for IAS activities, including biosecurity and management (confirmed within first six months of project implementation).
- Reconstitution and enhancement of the Fiji Invasive Species taskforce (FIST) to support the national coordination body on IAS issues (accomplished within first six months of project implementation).
- Approval of by-laws and/or other IAS legal and administrative elements to support the national coordinating body and advisory group (by-laws drafted in first year of project implementation and approved by the second year, if relevant).
- National IAS committee coordinating body and FIST advisory group are operational and oversee and guide IAS activities on a regular basis.

Output 1.2 National Invasive Species Framework and Strategic Action Plan (NISFSAP) completed and endorsed by National IAS Committee

It is essential to not only have a national level IAS committee supported by an advisory group of IAS (FIST) experts but it is equally important to develop a multi-year strategy in regards to IAS prevention and management. This National Invasive Species Framework and Strategic Action Plan (NISFSAP) should be the primary tool supporting and guiding IAS prevention and management activities for the nation.

A preliminary step towards completing a NISFSAP will be to conduct a desktop review to ensure that detailed information has been compiled regarding IAS currently within Fiji, IAS which threaten the country and biodiversity including endemics, threatened species and protected areas. It is recommended that this compilation of IAS information for Fiji include the following: inventory of IAS by district, island group and/or island; inventory of endemic and threatened species by district, island group and/or island; inventory of designated nature areas and ecosystems; inventory of risk species already established in neighboring countries and/or with trade partners; and an inventory of IAS prevention and management projects undertaken within Fiji, including past and on-going activities.

By developing a multi-sectorial, comprehensive strategy that is endorsed at senior levels of government, Fiji will be able to facilitate IAS prevention and management via a multi-stakeholder approach, ensuring that existing resources and capacity are utilized effectively and that capacity gaps are addressed in an effective and timely manner. A gap analysis conducted as part of the NISFSAP development will support these efforts. The NISFSAP will also include an IAS pathways analysis, detailing risk levels for IAS incursion. While the setting overarching goals and objectives via the NISFSAP is essential, it is equally important to develop a prioritized action plan to guide implementation. The action plan would include as much specificity as feasible, including details on actions, timing, facilitation, responsibility and resources. The NISFSAP will also outline opportunities to broaden the responsibility base for IAS management, including through voluntary compliance and improved biosecurity by individuals and operators, and through industry and user fees, and penalties for non-compliance. A specific section of the NISFSAP will emphasize the need to share responsibility beyond government alone and that "IAS and biosecurity is everyone's responsibility". The action plan will serve as a road map for IAS prevention and management activities. A suggested comprehensive outline for the Fiji NISFSAP is included in Annex 1.

Development and completion of the NISFSAP should be facilitated by an international consultant with multiple years of experience with developing similar strategies in the Pacific as well as first-hand knowledge of IAS management in Fiji and the region. The NISFSAP development, including the desktop exercise, should take approximately 12 months to finalize and should be a priority for completion in the first year of the project. The NISFSAP is expected to outline legislative reform and improvements required to ensure strong biosecurity and IAS systems, and the development of this legislation will be progressed following the completion of the NISFSAP.

Indicative GEF-financed activities under Output 1.2 include:
- Compilation of inventory of IAS, endemic and threatened native species and ecosystems, risk species already established in neighboring countries and/or trade partners, and ongoing IAS prevention and management actions by district or island group and/or island.
- Gap analysis of IAS prevention and control measures, and pathway analysis of potential IAS that could arrive and establish in the country.
- Completion of NISFSAP that would outline specific requirements relating to legislation and policy, capacity building, research, monitoring and biosecurity to protect Fiji from IAS.

- Development and drafting of IAS legislation and regulations in accordance with requirements specified in NISFSAP, including to enhance cost-recovery mechanisms for the incurred costs of IAS management.

Output 1.3 Improved biosecurity capacity for surveillance, prevention and control of IAS systems

This Output will focus on risk assessments, pre-arrival sanitary and phyto-sanitary and border security as essential biosecurity tools for preventing the introduction of potentially harmful IAS. Improvements to the existing suite of tools will be strongly supported as these are the primary ways of reducing risk from IAS that are not already established within Fiji or which are within the country but are not yet established nationwide.

This output will help establish a more comprehensive pre-border and border (including internal borders) biosecurity program for the country. The specific elements to be developed would be defined through the participatory planning process (likely to be part of the NISFSAP development) and the BAF strategic plan to be developed by the project under this Output, and will include a strong capacity building and training program.

Indicative GEF-financed activities under Output 1.3 include:
- Development of a multi-year strategic plan for BAF for IAS that includes pre-border, international/domestic port considerations such as resources and capacity to address current and anticipated future pathways, vectors and volumes. The BAF strategic plan would be a priority item and likely completed within two years of project implementation. Importantly, the BAF strategic plan can be used to inform the allocation of resources to priority matters and activities, and also be used to highlight gaps in resource allocation and petition decision-makers for additional resources. Mechanisms to broaden responsibility and resourcing for IAS management through public–private partnership model will also be included.
- Establishment of an official black list of organisms not permitted entry into Fiji. The black list will be collated from existing lists (published and otherwise) from current trade partners of known IAS. It will consider the role of trade in the introduction of IAS included in the existing lists, consider knowledge gaps in the collated list, and from the list propose potential high risk species for addition to a national black list and to a four-island black list. If and when new trade partnerships are added or existing trade is expanded, review processes would be completed for these particular areas. Black lists will be updated as new threats are identified and the review of new locations and sources will be an on-going process as part of trade expansion. The black list will be established and disseminated by the end of the first year of project implementation and then updated regularly. Guidelines will be developed for determining black and white lists and for change of status from black to white and vice versa.
- Establishment of an official white list of organisms known to be permitted entry into Fiji with appropriate documentation. The white list will be completed in the first year of project implementation.

- Completion of appropriate risk assessments for all organisms proposed for entry into the country that are neither on the black or white lists. Risk assessments would be instituted in the first year of project implementation, initially supplemented with GEF funding, but subsequently with co-financing support. Over time, compliance should reach 100% risk assessments for all organisms proposed for importation.
- Development of a comprehensive BAF database, which is currently under development but needs additional support. A preliminary database should be established and populated by the second year of project implementation.
- Additional patrol boats, equipment, training, staffing, protocols and work strategies as defined in the BAF strategic plan. Initial purchase of such items would be considered as part of the GEF project, but long-term support would be needed from the Government of Fiji.
- Training for both new and existing biosecurity staff and partners as defined by the BAF strategic plan. The GEF funds will help develop training materials and programs for BAF staff that can then be maintained beyond the project completion by a long-term commitment from BAF.
- Cross training of staff for front-line agencies will be instituted/improved enabling officers from various offices to support each other's missions. This would include Police, Health, Immigration, BAF, AFL and Customs.

Complementing the GEF-supported activities would be a number of activities that would be part of BAF's long-term strategy, some of which will be supported as co-financing commitments, and others as part of the long-term commitment of the government to improve biosecurity (refer to Annex 2 for specific details of these activities). These include: (i) development of biosecurity canine teams to improve inspection outcomes; (ii) provision of additional X-ray machines at international ports, including for cargo screening; (iii) an additional 20-30 front-line inspections nationwide to complete international (sea and air ports) and domestic (seaports) biosecurity coverage; (iv) upgrading laboratory facilities throughout the country; (v) ensuring that all international ports have a full suite of appropriate and comprehensive biosecurity elements in place and that staff are sufficient and appropriately trained and resourced; (vi) additional capacity for increased inspection of vectors, goods and passengers at international entry points; (vii) increased random inspections of high-risk goods; (viii) provision of tools, equipment and other resources and maintenance of inspection services facilities to ensure conduct day to day inspection; (ix) availability of inspection, quarantine and treatment areas at each inspection services site with emphasis on main ports within island/island groups; (x) review of status and improvements to inspection services at international air and seaports; (xi) institution of domestic air service biosecurity inspections nationwide, expanding initially on Taveuni, Qamea, Matagi and Laucala; (xii) comprehensive domestic water craft inspection services, expanding on the four-island biosecurity operations; (xiii) inspection stations for domestic movements (inter-island) with appropriate quarantine and treatment/disposition facilities and resources; (xiv) up-gradation of existing domestic inspection facilities; and (xv) review of status and improvements as needed to inspection services at ports, wharfs, jetties and landings that handle domestic traffic (including both domestic and international ports). These activities will be complemented by a strong capacity building and specifically tailored training program that would be conducted locally with the help of the international technical assistance support envisaged under this project. Additionally, staff

would also attend regional and international training events that offer specialized training in biosecurity-related topics and serve to bring international best practices and advances in biosecurity to Fiji.

Output 1.4 Study of potential economic impacts of selected IAS including cost/benefit analysis providing the business case for mobilization of long-term financing for biosecurity

Numerous IAS are already established in Fiji and many have known impacts across various sectors. An economic assessment will be undertaken to better understand the impacts of selected IAS – including GII – on biodiversity, livelihoods, agriculture and forestry, and to determine the economic costs of specific established IAS known to be causing impacts such as the taro beetle. The exact species to be utilized for this study will be determined during the initial stages of the study. The economic analysis of these species and their impacts will be used to better understand the broader implications of IAS to Fiji and improve biosecurity prevention and management activities, government and buy-in, including long-term government and diversified financing and commitment to biosecurity and effective IAS management. It will look at the economic impacts and explore the cost/benefits of various management/control options for the species in question.

Included in this analysis will be a determination of the potential impacts of IAS under various management options. In terms of GII, the study will include cost/benefits analysis of prevention measures currently utilized as well as additional tools for supporting improved management, impact reductions and providing the business case for mobilization of long-term financing (including to resource GII eradication activities in the four island area until it is confirmed that all GII have been removed – likely to be achievable only beyond the timeframe of this project) and informing local and national awareness-raising campaigns of potential impacts and need for biosecurity. This study will be conducted by pulling together experiences from elsewhere to make the case for strengthened IAS prevention, control and biosecurity. The findings of this study will also feed into knowledge management, and four-island and national biosecurity outreach programs under Components 3 and 4. Findings will be utilized to educate stakeholders regarding the costs of various options for addressing IAS and in particular the GII in Fiji and to emphasize that IAS prevention, management and control is everyone's responsibility with focus on more partnerships. It is fully anticipated that maximizing input now to address the GII will ensure that impacts and management costs are minimalized and that this analysis will demonstrate that now is the optimal time to effectively respond (effective scale of response and long-term commitment) to the GII invasion in order to reduce overall costs and impacts both on those islands where the GII has already established but also on other islands where the GII would likely invade if appropriate control measures are not implemented.

Output 1.5 Developed national-level Early Detection and Rapid Response (EDRR) program trialed for Viti Levu

An early detection and rapid response (EDRR) program provides the second level of biosecurity defense for a country if border-protection programs fail to stop a pest from entering. Central to such a program is improved means of detecting incursions of new IAS, access to taxonomic experts who can rapidly identify species of concern, and teams of trained personnel who can be employed to delimit the extent of any

new incursion and undertake activities to eradicate it. Objectives for the EDRR program for Viti Levu during the tenure of the GEF project will include creating: (i) a database of baseline information on IAS already established and their distributions, (ii) an EDRR plan that assigns roles and responsibilities of all EDRR partners, (iii) a protocol for rapid response actions; (iv) a central hotline that the public can use to report suspicious new plants and animals, (v) a regime of regular monitoring surveys at likely introduction sites for IAS (e.g., ports, nurseries) to discover new incursions, (vi) an outreach strategy to inform residents and institutional stakeholders of the need for vigilance and rapid reporting of new pests, (vii) a training program for rapid responders; and (viii) a dedicated rapid response fund to pay for program activities. Long-term needs will include identifying barriers to rapid response, developing strategies to surmount those barriers, and developing a risk assessment methodology to prioritize new incursions for response.

The EDRR program will also align with certain border protection activities, such as horizon scanning for new pests to create lists of unwanted organisms that Fiji is especially at risk from given the nature of its trade routes and partners. Illustrated alerts for these species can be disseminated to relevant stakeholders to improve the chances of their early detection in the event they are introduced. A successful EDRR program would necessarily be a joint venture involving many interested stakeholders because the required sum of personnel and expertise will never lie within a single agency or organization alone. EDRR partners will be confirmed during NISFSAP development but will include representatives from diverse government agencies, USP, FNU and NGOs.

GEF will finance all of the activities discussed above, including preparation of the EDRR plan, creation of a central hotline, development of a monitoring protocol, and support for the outreach and training program, while the Government of Fiji co-financing will include establishment of a dedicated rapid response fund for financing any IAS outbreaks in the country and staffing costs, as well as support for continuation of the program beyond the life of the GEF project.

Outcome 2: Enhanced IAS prevention and surveillance operations at the island level on Taveuni, Qamea, Matagi and Laucala (Total Cost: USD 4,221,000, GEF: USD 721,000 Co-financing: USD 3,500,000)

Outcome 2 is focused on inter-island movements in the area of Taveuni, Qamea, Matagi and Laucula, at risk from GII invasion and will be supported by the following outputs:

2.1 Establishment of collated database of information on IAS present on Taveuni, Qamea, Matagi and Laucala and island-specific black lists of high-risk species not established.
2.2 Improving inspection and quarantine services and reduced entry and spread of IAS into and between Taveuni, Qamea, Matagi and Laucala.
2.3 Improved training of key personnel on the four islands, including biosecurity officers, military, police, community members and other stakeholders, for inspection, control and management to prevent inter-island IAS spread.

Baseline conditions for this outcome (without GEF project):

Biosecurity for Taveuni, Qamea, Matagi and Laucala remains as is (limited at best) or is improved slowly in a piecemeal fashion with no overall comprehensive strategy. No source of comprehensive information will exist for IAS on these islands, making it difficult, if not impossible, to fully manage established IAS, to develop EDRR capacity or to prevent incursions of new species. Current staffing and resources is limited. Currently biosecurity services in the four-island area are focused on review and inspection of the roll-on/roll-off ferries as they arrive and the larger morning passenger ferries which move between Taveuni and Vanua Levu. There is no established inspection service on Taveuni, although there are numerous established entry points both on Taveuni and Qamea. No or very limited inspections are provided for smaller watercraft moving passengers and goods between the four islands and also to and from Vanua Levu. In addition, no biosecurity services are currently provided for landing or departing airplanes and for transport ferries and smaller craft. Currently, there are no quarantine or treatment facilities on any of the islands in the four-island biosecurity area. There is no manifest currently associated with the roll-on/roll-off ferries to assist biosecurity officers with targeting high-risk cargoes. Currently there is little or no space and/or time available for biosecurity officers to conduct random inspections of passengers, vehicles or cargo as they are off-loaded from ferries. Newly engaged biosecurity officers receive an initial two weeks of training that cover all topics. Biosecurity officers are then assigned posts and are on probation for 3-6 months. This training will not improve significantly.

Alternative for this outcome (with GEF project):

Improved biosecurity will lead to better protection of natural resources, food security, human health, livelihoods and cultural aspects. Additional facilities, improved resources, increased workforce and training will be instituted to improve biosecurity within the four-island area. Sufficient staff will be employed and trained to provide the minimum essential biosecurity services at all established jetties on Taveuni. A systematic way of identifying high-risk vehicles and cargoes arriving on the roll-on/roll-off ferries will be put in place. Improved quarantine and treatment facilities will be at least minimally established at the main sea and airport on Taveuni. The establishment of inspection services for arriving and departing aircraft will likely be instituted. Inspection services for air and sea craft arriving and departing Laucala will be available and random inspections of persons, cargo and craft arriving to Taveuni will likely be in place. Improving these and other elements of the biosecurity services for the four-island area will safeguard these islands from the arrival and establishment of additional IAS. Government co-financing will support the above actions on a long-term basis through the establishment of a Four Island (at division or sub-division) multi-sectoral IAS taskforce (FIIT) or working group, improved biosecurity staff and facilities, vehicles and communication equipment, quarantine and incineration facilities, veterinary services, vehicle and watercraft sanitation facilities, and enhanced biosecurity inspections of inter-island domestic cargo and passengers.

The complementary GEF increment will provide technical support and limited equipment for development of a collated database of information on IAS on the four-islands site and preparation of island-specific black and white lists, technical support and training for improving IAS prevention and management capacities in the four-islands site, and technical support for improving biosecurity at all ports, jetties, wharfs and landing. Improved training in all aspects of biosecurity services for front-line inspectors as well

as other agency staff on the four islands will provide for more comprehensive inspection/quarantine services at ports of entry and improved detection of arriving pests. Improving training for domestic services will better safeguard against the spread of established pests currently of limited distribution within Fiji.

Output 2.1 Collated database of information on the IAS present on Taveuni, Qamea, Matagi and Laucala and island-specific black lists of high-risk species not established

A single database will be developed regarding IAS present on these four islands. It will list known IAS on each island and the relative range and population sizes of incursions. Information on known impacts of each species as well as of attempted or on-going management actions will also be collated. This database would be available to all key stakeholders involved in IAS prevention and control. Once operational, the database will serve as a framework for developing a similar national-level IAS database for Fiji. During the second half of the project, the database will be broadened in geographic scope to cover the whole of Fiji (see Output 4.1). Data storage and maintenance will occur at the national level.

A four-island specific black and white list will be developed for the four islands and updated as needed. Black lists would in part be developed from known IAS not present in Fiji but posing a high risk of invasion, and in the case of the four-island area, from high-risk IAS known to be in Fiji but not thought to be established within the four-island area. The black list will include species or species groups that are forbidden for introduction into the four-island group. The island black lists (one for each of the four islands) would supplement the national black list by including those additional species that are not permitted entry into the four islands. In the same manner, a white list of species that are clearly permitted entry in the four-island group will be established. Again, this should be based on the national white list and likely will exclude some species that are permitted entry into Fiji, but not into the four-island group. All species not on either the black or white list that are that are petitioned for entry to one or more of the four islands will need to have a risk assessment (conducted by BAF and funded by the importer) completed to determine if an entry permit can be provided. Guidelines for this process will be developed. Risk assessments would include known attributes of the species in question including invasiveness in other locations as well as has how the species has been treated in other neighboring countries. The draft black list will be developed within the first year of project implementation. Island databases would be linked into a national database through existing technologies.

Indicative GEF-financed activities under Output 2.1 include:
- Establishing a collated database of information on the IAS present on Taveuni, Qamea, Matagi and Laucala.
- Preparing an island specific black (and white) list.
- Developing procedures and guidelines for risk assessment for species that are neither in the black or white lists that are petitioned for import.

Risk assessments will be financed by the importer, while BAF will finance the costs of technical staff and operational costs to undertake the risk assessments and for the long-term management and operation of the database.

Output 2.2 Improved inspection and quarantine services and reduced entry and spread of IAS into and between Taveuni, Qamea, Matagi and Laucala

This output will help establish more comprehensive biosecurity for the four-island group, reducing the potential for pest species to enter and establish within the four-island group and move between these islands. The specific activities to be undertaken to improve inspections and quarantine will be defined by the NISFSAP.

Indicative GEF-financed activities under Output 2.2 include:
- Establishment of a Four Island IAS Taskforce (FIIT) to support overall efforts with biosecurity in the four-island zone. This Taskforce would include various government and non-government partners that operate in the area. The Taskforce should be established in the first six months of the project.
- Standardized systems and processes developed and in place for inspection of good, persons and vectors arriving at the four-islands.

Complementing the GEF-supported activities would be a number of other activities that would be part of BAF's long-term strategy, some of which will be supported by co-financing commitments, and others as part of the longer-term commitment of the government to improve biosecurity (refer to Annex 3 for details of these activities). These will include the following activities: (i) improved communications between BAF headquarters and staff on Taveuni; (ii) improved BAF office in Taveuni with securable holding room/laboratory space with basic facilities and equipment; (iii) holding facilities (quarantine) for plants and animals on Taveuni; (iv) local veterinarian services at Taveuni or training 2 or more biosecurity officers on Taveuni to serve as Para-vets; (iv) restriction of movement of soil, including bags of potting soil and similar items requiring pest free certification or treatment prior to shipping; (v) random inspections for passengers and cargo on arriving ferries; (vi) development of a system for identifying potential high-risk cargo for both boat and air cargo; (vii) sanitation requirements for vehicles being transported on roll on/roll off ferries; (viii) sanitation regulations for boats and ships transiting between islands; (ix) provision of adequate resources to ensure biosecurity inspections are feasible for air and watercraft departing and/or arrive at these islands; (x) provision of incinerators, quarantine and treatment facilities minimally at Matei Airport and the Salia Wharf; (xi) expanding existing biosecurity inspections for watercraft, passengers, baggage and cargo between Taveuni and Viti Levu, Vanua Levu and other areas within the country; (xii) reaching agreement with regular transporters to facilitate inspection services on Taveuni both prior to departure and on arrival; (xiii) implementing biosecurity inspections at airports for aircraft, passengers, baggage and cargo prior to arrival and departure on any of these islands; (xiv) four full-time inspection officers on Taveuni for conducting inspection/quarantine processes at the Salia, Lovonivonu, Wariki and Matei, and three additional part-time officers to service arrivals and departures for various

landings to/from Qamea, Matagi and Laucala; and (xv) the recruitment of additional officers to support improved biosecurity services at Taveuni.

Output 2.3 Improved biosecurity training in best practices for inspection, control and management to prevent inter-island IAS spread

Training for biosecurity officers needs to be improved to support better national and local biosecurity results. To support improved training, BAF will set up a long-term training program as part of the BAF overall strategy. The various elements of this program would be determined via consultation and these elements would support BAF objectives. Various specific training programs would be defined in the Fiji NISFSAP (Output 1.2) and the BAF Strategic Plan (Output 1.3). Possible training elements include: (i) localized training for biosecurity staff and partners in on pest identification, hull inspections, early detection, rapid response and database entry and use; (ii) cross-training of staff from various front-line agencies such as police, health, immigration, customs, airports authority and safety on protocols, pest identification; (iii) training biosecurity officers in the use of existing X-ray machines, particularly in the use of the dual-image machines would improve ease of use and detection; (iv) canine team training for both the handlers and the dogs; and (v) training of Para-vets to ensuring the health of canines, where veterinary services are unavailable.

Indicative list of GEF-financed activities under Output 2.3 include:

- Completion of a needs assessment for biosecurity training of agency staff and community groups on the four islands based on the national training plan.
- Development and implementation of a long-term IAS training strategy and plan for the four-islands.
- Organizing local and national training programs for frontline biosecurity staff and community groups to improve capacity for and broaden responsibility for managing and control of inter-island movement of IAS.

Outcome 3: Long-term measures for protection of terrestrial ecosystems and their biodiversity in Taveuni, Qamea, Matagi and Laucala (Total Cost: 4,203,000 GEF: USD 1,203,000, Co-financing: 3,000,000)

Outcome 3 is focused on the four-island site for targeted IAS efforts and also serves as a pilot to test improved biosecurity systems and processes ahead of broader application across Fiji. It is aimed at long-term measures for protection of terrestrial systems in the four-islands through the eradication of GII. The achievement of Outcome 3 is supported through the following outputs:

3.1 Comprehensive survey and public outreach program developed on Taveuni and the surrounding islets and to determine the status of GII on Taveuni Island.

3.2 A detailed eradication plan developed and implemented simultaneously on Taveuni, Qamea, Matagi and Laucala.

3.3 Reduction of GII sightings/captures on Qamea, Matagi and Laucala by 50% or more by the end of the project.

3.4 Survey of native banded iguana on island(s) where GII are known to be established.

3.5 Survey and assessment to determine local community perceptions of damage and impacts of GII on food crops and livelihoods.

Baseline conditions for this outcome (without GEF project):

GII was deliberately introduced to Qamea by a private, foreign landowner in 2000. GII have since become established island-wide on Qamea and Matagi, and probably also Laucala island. They have been found in isolated incidents on Taveuni at four widely-separated localities, but it is not yet known if one or more populations are established if any. This same species has become widespread throughout the Caribbean, achieves high population densities in many of these areas (i.e. populations of hundreds of thousands or millions), and is credited with a range of negative impacts, including decline of native lizards, defoliation of trees and shrubs (both native and ornamental), undermining of roads and levees through burrowing activities, power outages, and interference with flight operations at airports. Typically, GII populations have been ignored for 30–40 years before damage becomes noticeable enough for humans to become concerned – and at which point eradication is impossible.

Without the GEF project, it is likely that the GII would not be eradicated from Fiji, and similar impacts can be expected to occur, with increased impacts on Fiji's biodiversity. Devastation of several garden crops (e.g. tapioca, cabbage, spinach) is likely to occur, making subsistence farming difficult or impossible in decades to come and decreasing the country's food security. Undermining of beach areas and roadsides by burrowing activities can be expected to exacerbate storm-surge damage with continuing climate change, as would defoliation of mangrove areas. Fiji has three species of endemic iguanas (*Brachylophus bulabula, B. fasciatus, B. vitiensis*) and the GII potentially threatens these species through competition, direct aggressive behavior, or transmission of diseases or parasites – although these impacts may not become noticeable until higher GII densities. It may threaten endemic plants as well through herbivory. GII are excellent swimmers, and the distances separating Qamea from Taveuni, and Taveuni from Vanua Levu are easily within their capabilities. If eradication is not achieved from the four island group, it is only a matter of time before GII become widespread throughout Fiji, either by their own dispersal capabilities or because humans spread them throughout the islands – the greater their range becomes in Fiji, the more likely that humans will find them and move them around. Because GII can successfully ride vegetation rafts for several hundred kilometers during hurricanes, and because Fiji is nested among several other island groups in the South Pacific, if GII are allowed to become widespread throughout Fiji, it will likely be only a matter of time before they also colonize surrounding nations like Vanuatu, New Caledonia, or the Solomon Islands – nations that have even fewer resources to respond to an invasion than Fiji.

To date, small-scale efforts have been made to conduct public outreach and GII control. But activities have not been conducted with sufficient planning, coordination, resources, or duration to provide a feasible chance at successful eradication. At present, only a team of ten staff is in the field conducting GII control

on Qamea (with occasional visits to Matagi and Laucala). Field surveys and outreach have never been done on Taveuni.

Alternative for this outcome (with GEF project):

This project will allow for an immediate program of comprehensive survey and public outreach on Taveuni and an increase in the search effort and take rate of GII on the islands of Qamea, Matagi, and Laucala. If the former demonstrates that GII are well established on Taveuni, then eradication of GII from Fiji will likely be impossible, and management efforts will need to be re-focused to containment of GII to those four islands through improved local biosecurity. If comprehensive surveys and public outreach on Taveuni indicate that no population of GII is yet established on that island, then eradication from the country may still be feasible because Qamea, Matagi, and Laucala are sufficiently small that eradication may be achievable. However, to achieve that outcome, search and removal efforts on those islands will need to be increased dramatically (at least five-fold over current efforts), use improved techniques and strategies (see Annex 6), be planned and implemented with skill, and coordinated in a very ordered sequence. New techniques will be employed that will increase effectiveness of GII removal (e.g. use of trained detector dogs, use of small-caliber rifle, thermal imaging, night vision, infrared technology) or evaluated for effectiveness in improving take rates (e.g. surveillance with drones). All eradication efforts are high-risk endeavors because success is never guaranteed. But the risk of taking no action and allowing GII to continue spreading throughout Fiji (and from there to other archipelagos) is much higher through reduction of food security, loss of native biodiversity, and exacerbation of climate-induced damages.

Successful GII eradication will require many years of coordinated government and community, and public-private partnership model, efforts because populations are already fairly large, animals are difficult to detect, and control efforts to date have not been commensurate with those needed for eradication. To achieve eradication, the Government of Fiji will significantly increase its efforts and commitment immediately and sustain that commitment through to final eradication, a period likely to be ten years or more. GEF funding will help supplement that increase in funds from the Government of Fiji, serving to provide the accelerated effort needed to quickly depress GII numbers over the next four critical years and provide essential access to best practice eradication techniques and tools. GEF funds will be used to (i) hire the technical advisors and coordinators needed to assist in planning and oversight of the eradication program and training and assessment of hunters and canine teams; (ii) purchase, train, and care for dog teams; and (iii) purchase equipment needed to undertake the eradication program. This will ensure that eradication staff will be properly trained in use of the needed control tools, the feasibility of GII eradication will be reliably assessed, and that eradication efforts will be put on a professional footing that maximizes the chances of final success. It will also lower the risk of GII migration to new islands out of the already infested areas. Complementary engagement and outreach activities with local stakeholders and communities (Output 3.1) will broaden the sense of responsibility for IAS management and leverage additional effort in searching for GII and reporting sightings to eradication teams, and minimize the further spread of GII through improved biosecurity awareness and greater ownership and commitment from local communities.

The Government of Fiji will finance as a long-term measure the recruitment of eradication teams for the four islands, office space and operational costs for GII eradication, and a commitment to additional funding and staffing to sustain the eradication and outreach effort beyond the timeline of the GEF project.

Output 3.1 Comprehensive survey and public outreach program developed to determine the status of GII on Taveuni

The status of GII on Taveuni remains unknown. Determining this status must be the highest priority for the project because it, in turn, determines the best options for managing and eradicating GII in Fiji. This project will assess whether GII have successfully become established on Taveuni through the implementation of two simultaneous strategies. First, a comprehensive public outreach program will be established that will endeavor to reach every community on the island multiple times to enlist the help of as much of the population as possible and maintain their continued sensitivity to the topic. The outreach strategy will be built upon the core message of "IAS and biosecurity is everyone's responsibility" to broaden support for both the GII eradication and increase personal and stakeholder responsibility for strengthened IAS management more broadly.

Public outreach will be used to inform communities of the threat the GII poses to their livelihoods, but, more importantly, will seek from them all recent reports of iguana sightings and their cooperation in quickly reporting any further sightings. All credible sightings will then be followed up by project staff to assess whether GII inhabit the reported locality. Outreach would be continued at a high rate for a period of at least 1-2 years to ensure the best possible coverage of the island's population. Seeking reports of GII from island inhabitants is critical for evaluating whether any populations are established. Having the general population informed of the threat that GII pose, staying sensitive to possible sightings, and quickly reporting sightings to project staff will tremendously increase the chances of detecting GII when at the low population densities characteristic of an incipient population. Outreach activities will be targeted to all sectors of the population and project staff will include representatives from those same communities.

Outreach efforts will by supported by a team that will include some members dedicated to reaching Fijian of Indian descent communities (this team will also be responsible for surveying likely iguana-nesting areas during the months of August to December, see below). Additionally, this team will be supported by agencies that provide specific capacity support for various elements of the awareness program. An overall multi-year awareness/outreach strategy will be developed that includes specific benchmarks to ensure both engagement and improvement over time.

Outreach efforts will be well planned and the hiring of an international consultant to facilitate and lead efforts to develop an outreach program for the four islands is highly recommended. This individual should have the capacity to bring together the diverse cohort of partners that will be needed to ensure that both planning and on-the-ground activities are comprehensive and targeted to significantly improving community support for IAS prevention and management across the four-island area. Once this outreach effort has been successful, it can be used as a blueprint for similar programs throughout the country.

The initial four-island outreach program should begin development in the first year of project implementation. This program should involve numerous partners including *iTaukei* Affairs, Education, Lands, BAF, Environment, Police, Immigration, FRCA, USP, FNU and other groups with existing supportive capacity. Initial consultations with these partners for the development of the outreach program should take place in beginning of the first year of project implementation, building on broader consultations with these stakeholders completed during project development. Once an outreach program strategy has been developed, implementation will begin immediately, possibly in the third quarter of the first year of implementation. Materials and messages for outreach will also be built into other activities of the project as relevant, such as the impact surveys on known GII-infested islands conducted under Output 3.5. Support for developing the outreach plan will be supported by the GEF project. Ultimately awareness activities would be long-term and extend well beyond the life of the GEF project. The support of resort owners on islands will also be engaged, including to align the messages of any awareness activities run by resorts for their staff and guests, and to use these activities in broader support of this Output.

Second, newly recruited project staff (Team on Taveuni) will survey likely GII nesting areas during the months of August to December. These areas include all sandy beaches, landslides, gardens, golf courses, and road-cuts with sun exposure and soil loose enough for GII to dig nests. Surveys will include dog teams trained to locate GII and their eggs. GII are at their most vulnerable when on the ground searching for nesting sites, and this activity will take advantage of this vulnerability (refer to Annex 6 for more details). All potential nesting sites will be located and mapped in the first months of the project. In the non-nesting months, the project staff will focus on general outreach within the four islands to build public support for prevention and management of IAS as discussed in Output 4.1.

Given the size of Taveuni, if GII prove to be extensively established on that island, eradicating the species from Fiji will prove incredibly challenging, and the management focus will need to shift to control and containment of GII to the four infested islands through improved local biosecurity. If a single small but restricted population were discovered on Taveuni, eradication of that population would have to become the highest priority for further GII control. If no GII are discovered on Taveuni that would suggest that populations remain confined to Qamea, Matagi, and Laucala, and eradication of GII from those islands would continue vigorously.

Indicative GEF-financed activities for Output 3.1 include:
- Development of a comprehensive public outreach program in Taveuni and the surrounding islets (Qamea, Matagi and Laucala) built upon the message "IAS and biosecurity is everyone's responsibility".
- Training of staff assigned by BAF to implement the outreach program in Taveuni and surrounding islets.
- Implementation of outreach strategy through Taveuni and three islets that reaches all segments of the population.
- Intensified survey of potential GII nesting sites on Taveuni to establish GII status on the island, followed by eradication depending on survey findings.

Output 3.2 A detailed eradication plan developed and implemented simultaneously on Qamea, Matagi and Laucala

The project will devise a detailed eradication plan for the islands of Qamea, Matagi, and Laucala. This plan will be implemented simultaneously with the comprehensive survey and public outreach effort on Taveuni so that eradication can commence on islands known to be infested while surveys on Taveuni take place. The eradication plan will address both strategic and tactical aspects of the eradication (refer to Annex 6 for further details) and clearly lay out the methods to be used for finding and removing GII, methods that need to be newly incorporated into the eradication program and evaluated for effectiveness, and methods requiring further research to determine their potential efficacy. The plan will also detail staffing and training requirements for the program and identify means to track project success in meeting the goal of eradication without violating the regional and international animal welfare mandates that the Government of Fiji is signatory to. Finally, the plan will identify major risks to achieving eradication and discuss how these barriers may be surmounted. The plan would also be assessed for any social and environmental risks, including impacts on native species and measures for addressing such impacts would be incorporated into the plan. The plan will be grounded in recommending approaches that are feasible given the logistical and timing constraints operating in Fiji.

Indicative list of GEF-funded activities for Output 3.2 include:
- Development and implementation of strategic and tactical GII eradication plan for Qamea, Matagi and Laucala.
- Assessment of potential environmental and social impacts of eradication plan prior to implementation of eradication activities and the identification and deployment of appropriate mitigation measures for these risks.

Output 3.3 Reduction of GII sightings/captures on Qamea, Matagi and Laucala by 50% or more

Successful GII eradication will require many years, extending well beyond the four years of the present project. This is because, as for all eradications, removing the last animals occurring at low population densities will be more difficult than removing animals early in the eradication program. Nonetheless, achieving rapid reduction of GII populations will be imperative both in attaining the overall goal of total eradication but also in protecting other islands from the threat of dispersing GII seeking better quality habitats. Thus, this project will aim for the goal of achieving at least a 50% reduction of the populations on Qamea, Matagi, and Laucala by the end of the project. Accurately measuring this goal will require establishing a credible baseline rate of removal (in the first or second year as sufficiently trained staff become available) and efficacy testing of the control methods employed. Both of these will require that sufficient staff are trained and deployed around these three islands by the second year of the project. Thus, BAF will increase staffing in its first year to 50 persons on these islands (inclusive of the team on Taveuni) and maintain that number for at least the duration of this project. GEF will finance incremental

costs associated with technical support and coordination, dog team training, capacity building and training, outreach, and specialized tools, techniques and approaches to eradication.

Indicative list of GEF-funded activities for Output 3.3 include:
- Technical support and oversight of the GII eradication effort.
- Staff training in methods of eradication of GII on Qamea, Matagi and Laucala.
- Improved tools and methods of GII eradication instituted.

Complementing the GEF activities, the Government of Fiji will co-finance costs of eradication teams, office space and operational costs for GII eradication, and provide a long-term commitment to additional funding and staffing to sustain the eradication effort beyond the timeline of the GEF project.

Output 3.4   Survey of native banded iguana on island(s) where GII are known to be established

Surveys for native banded iguana (*Brachylophus bulabula*) will be conducted in Year 1 and Year 4 to track native iguana population status during the course of the project. Native iguana population densities prior to GII establishment are unknown. But, surveys conducted in Year 1 of the project will provide a baseline to which future surveys can be compared to determine if there are any changes to native iguana population size and distribution as GII populations are eradicated. Surveys may be spread over a single island or multiple islands and will include a variety of habitats known to be occupied by native iguana and/or GII. Surveys will include multiple survey sites to provide a representative sample. Survey methodology will be explicit and the same methodology and sampling sites will be utilized for survey work in both Years 1 and 5. Survey methodology will be based on currently acceptable methods that have been utilized successfully for similar species elsewhere. Results of the survey work will be expected to support the GII eradication/management program by identifying areas of native iguana density that could be potentially impacted by high levels of GII invasion and therefore prioritized for eradication.

Output 3.5 Survey and assessment to determine local community perceptions of damage and impacts of GII on food crops and livelihoods

GII has been established in Fiji for several years. It is known to be present on the islands of Qamea, Laucala and Matagi and may or may not have established on Taveuni. Despite the presence of GII, little evidence of impacts on livelihoods and food crops have been observed to date. Experience from elsewhere suggests that impacts do not become apparent until GII populations reach very high densities. To understand how GII impact on and interact with local livelihoods, a survey of local community perceptions will be conducted to determine the current status of any impacts on food crops and livelihoods associated with the presence of GII on islands where GII is established. Survey and assessment work should be conducted on Qamea, Matagi and Laucala to support better understanding of any current impacts, if any, as well as to determine what future potential impacts could arise if GII populations in Fiji were not effectively controlled. The survey and assessment of community perceptions will be undertaken in Year 1 and re-assessed in Year 5 of the project to ascertain if there is any change in perceptions of impact. While the

primary purpose of these surveys is to collect data on GII impacts and measure any change in perceptions of impacts over time, they also offer potential awareness-raising opportunities. Given this potential, impact surveys will also be used to disseminate information on this project including outreach materials and messages developed under Outputs 3.1 and 4.1 as relevant.

If the study indicates perceptions of damage by GII, then the project would estimate the costs of current damage by determining the range of garden crops destroyed by GII and the cost to replace these subsistence crops with market crops should all be lost due to GII consumption. Alternative measures will also investigate the costs of fencing all garden crops from GII predation and the time needed to deter iguanas from climbing those fences. Additionally, as part of the economic study planned under Output 1.4, the project will support an economic assessment of the potential impacts of IAS (including GII) on agricultural and forestry crops, livelihoods, and biodiversity including cost/benefits analysis of prevention measures currently utilized to build national and local support and understanding for strengthened biosecurity controls and investment.

Outcome 4: Increased awareness of risks posed by IAS and need for biosecurity of local communities, travelling public, tour operators and shipping to invasive alien species and biosecurity (Total Cost: USD 4,065,544, GEF: USD 403,000 (including M&E): Co-financing: 3,664,544)

Achievement of Outcome 4 is supported through the following outputs:
  4.1 Strengthened awareness of IAS issues among public developed nationally, following initial trialing in Taveuni, Qamea, Matagi and Laucala.
  4.2 Development of national on-line clearinghouse for information on IAS.
  4.3 Improved national IAS database.

Baseline conditions for this outcome (without GEF project):

There is no comprehensive IAS information at the national level, without which prevention, management and awareness of IAS in Fiji will remain under-capacitated because existing knowledge and information are not readily accessible to all stakeholders. IAS and biosecurity outreach efforts will remain as they are currently are (limited) with no coordinated programmatic approach. Public engagement with supporting biosecurity efforts will remain low.

Alternative for this outcome (with GEF project):

Safeguarding the nation from IAS will be greatly improved through established public and visitor awareness, outreach and buy-in in regards to IAS prevention and management. Recognition that IAS impacts everyone at all levels will ensure that prevention and management efforts receive public and government support, and that all stakeholders recognize and adhere to their personal biosecurity responsibilities, ensuring their continuance and maximizing their effectiveness. This will be accomplished through awareness campaigns, creation and maintenance of an online public access IAS clearing-house and a national IAS database.

Output 4.1 Strengthened biosecurity outreach activities developed nationally, following initial trialing in on Taveuni, Qamea, Matagi and Laucala among communities, private landholders and other sectors

Following successful trialing of the four-island outreach (Output 3.1), it would be extended nationally to create broad awareness of and responsibility for IAS management, and support for measures that prevent IAS entry into and within the country. An international consultant will facilitate and lead efforts to develop a national outreach strategy and plan, identifying target audiences, target messages and means of outreach, school curriculum changes, and other suitable means. The outreach program will target a broad range of stakeholders including tour operators, shipping agents and the travelling public and be built upon the message "IAS and biosecurity is everyone's responsibility". The GEF project would support the development of publicity materials for the national outreach program. A coordinator for the national outreach would be delegated from either BAF or a partner institution or hired through the project to oversee its implementation during and beyond the life of the project, so that this effort is sustained on a long-term basis.

Indicative list of GEF-funded activities under Output 4.1 include:
- National outreach strategy and plan developed and implemented using a variety of materials, media and outreach tools.

Output 4.2 Improved collation and use of IAS information nationally through establishment of national IAS database and national online clearing-house on IAS

Once the Fiji IAS desktop exercise (Output 1.2) has been completed, this information will be utilized to populate an online IAS clearing-house of IAS information for Fiji. It is worth noting that a Fiji IAS clearing-house website is currently available but content is limited. These efforts will be conducted in concert with the group that has established the current draft IAS clearing-house website and with the consultant hired to conduct the desktop exercises so that end results can readily be input into the clearing-house. Once established, the clearing-house would be maintained and updated regularly.

The clearing-house would also need to be advertised so that those involved in IAS work both in Fiji and regionally can use its content and contribute to its improvement. The clearing-house would also be accessible to the general public as it can be used as an extensive informational source to improve IAS awareness both within Fiji and beyond. The clearing-house would be linked to other key websites such as those for BAF and the Ministry of the Environment. The clearing-house, once populated, would also be announced regionally via existing IAS networks. Establishing, populating and updating a Fiji IAS clearing-house will facilitate management of existing IAS both in Fiji and regionally.

A national IAS database will be developed based on the four-island group IAS database (Output 2.1). Under Output 4.2 the four-island database will be broadened in geographic scope to cover the entire country in the second half of the project – the four-island database becoming one of numerous portals to the national database. The national database will support IAS prevention and management across multiple sectors to allow both managers and policy makers to better understand IAS and improve development

and implementation of regulations, policy and field actions throughout the country. The database will serve end users across the spectrum, including scientists, biosecurity officers, natural resource managers, policy makers and the general public. To facilitate this broad use it is expected that the database will be based on a 'portal' access point, which can be accessed via most web browsers. The national database is envisioned as a multi-stakeholder database where details and information on IAS are housed and where stakeholders can access data for analysis to improve IAS management at island, division and national levels. Different access levels to the database will be specified, with access to some information restricted to specific agencies, other areas open to multiple agencies and still others accessible to the general public.

The national database will be built through a 2-stage process as follows:
- Develop database for four-island region (Output 2.1) to confirm technologies, data standards and entry formats, and user access arrangements
- Adjust database format, data standards and access as required based on learning from four-island databse, and broaden coverage to national IAS database (Output 4.2).

How existing information held by numerous agencies, Ministries and NGOs can be best integrated, further populated, and structurally updated will need to be determined. Data storage and maintenance would be the national level, but island or island group elements of the database will become operational as these portals come online. As per Fijian law, BAF is mandated to oversee IAS and collaborates with many government and non-government stakeholders in doing so, including university. The database, and a majority of the data, is expected to be stored and housed within BAF, in alignment with BAF's overall responsibility for IAS. It is expected that oversight for database maintenance will be provided by the national level coordination body. Operating procedures and guidelines for database access, data sharing arrangements, and housing and maintenance (taking on feedback from Output 2.1) will be drafted and managed by the national agency BAF. The sustainability of database management will be an important consideration of determining these arrangements, along with national legislation, agency mandates, the needs of Fiji and the capacity of different partners. Database maintenance arrangements will be confirmed during the first year of implementation.

Indicative list of GEF-funded activities under Output 4.2 include:

- Development and population of IAS clearing-house for the country.
- Linking of IAS clearing-house to other agency websites.
- Outreach to inform general public of IAS clearing-house.
- National multi-level IAS database designed and populated.
- Procedures and guidelines for accessing database, data storage and sharing, and database maintenance, developed and instituted for management by BAF under relevant national legislation.

Output 4.3. IAS best practices and project lessons learned are synthesized and shared among stakeholders

Output 4.3 addresses the publication and dissemination of knowledge products, best practices and lessons learned. The project will also help establish a community of practice on comprehensive IAS management in Fiji, including to identify and share lessons learned from the on-ground eradication of GII. An outline of how the community of practice will connect multiple IAS stakeholders to promote learning and sharing of best practices is shown in Annex 7.

The project will publish at least five best practice and case study reports systematizing project experiences, best practices and lessons learned, in electronic formats that will be shared through mailing lists, partner's websites and social media, and through integration into stakeholder forums and training sessions as relevant. These reports will approach different themes provisionally scoped as: i) NISFSAP as a mechanism for cross-sectorial, multi-stakeholder engagement; ii) international best practices in IAS prevention, quarantine, surveillance and rapid response, and relevance for Fiji; iii) GII eradication best practices from the four island case study; iv) impacts and interaction of IAS with livelihoods in Fiji, including any gender-related differences in perceptions of impacts; v) project lessons learned. Publications will include information on the methodologies applied, the difficulties encountered, as well as the projects successes and on-ground impacts. All project knowledge products will be shared with the multi-stakeholder dialogue platforms, nationally, regionally and globally to be established with project support, thereby reaching an important number of institutions in each sector at global, national and local level. This will help ensure access of the wider stakeholder community to the experiences, failures and successes of the project.

Indicative list of GEF-funded activities under Output 4.3 include:

- Building a community of practice of relevant stakeholders around IAS management, including to bring together the lessons learned through the project.
- Identifying and documenting lessons learned and best practices in preventing, controlling and eradicating IAS.
- Dissemination of lessons learned through online fora and integration into stakeholder forums, training events and outreach program.
- Participation in regional and global events to help facilitate sharing of lessons learned and experiences in biosecurity and IAS control and management by BAF.

ii.   Partnerships:

The proposed project will coordinate with a range of on-going GEF-financed projects in the country and Pacific region described below.

The project will work with other emerging GEF-financed IAS projects in the Pacific region to foster South-South cooperation through identification of opportunities for collaboration and exchange and scaling-up of lessons learned. The UNDP-supported GEF-financed project *Implementing a "Ridge to Reef" approach to Preserve Ecosystem Services, Sequester Carbon, Improve Climate Resilience and Sustain Livelihoods in Fiji* seeks to improve management effectiveness of existing and new protected areas and enhance their financial sustainability, restore carbon stocks in priority catchments, and demonstrate sustainable forest

management and integrated management for biodiversity, forests, land and water. Prevention and management of IAS is a key issue for protected areas. The UNDP-supported GEF-financed *Capacity Building For Mainstreaming MEA Objectives Into Inter-Ministerial Structures And Mechanisms* (2014-2017) aims to strengthen capacities of individuals and institutions involved in environmental management in Fiji to coordinate better, make better decisions addressing global environmental issues and mainstream global environmental issues into national legislation, policies, plans and programs. This will help Fiji to improve its compliance with various related MEAs, particularly the three Rio Conventions. Lessons learned through this MEA project will be useful in the design and implementation of this IAS investment proposal. Related projects in Fiji will be invited to participate in the inter-sectoral, multi-stakeholder coordination mechanism established through this IAS investment. The proposed UNDP-supported GEF-financed project *Integration of Biodiversity Safeguards and Conservation into Development in Palau* (currently in PPG phase), seeks to develop a national framework for IAS management, pathway and risk analysis for key IAS species, develop a national action plan for IAS and prepare an EDRR, all of which are relevant to the Fiji project. UNDP is also developing a GEF-6 project proposal for the Federated States of Micronesia that is expected to have a focus on IAS. Finally, there is the proposed GEF-financed, UNEP-supported (in collaboration with SPREP and national government partners) regional project *Strengthening national and regional capacities to reduce the impact of Invasive Alien Species on globally significant biodiversity in the Pacific* that will operate in the Republic of Marshall Islands, Niue, Tonga and Tuvalu.

Regular meetings will be held between the different projects to leverage synergies and ensure efficiency in implementing the projects. The studies conducted and the information gathered under the other projects will be integrated into project development and implementation. In addition, efforts would be made, to the extent feasible, to share information on training programs, that could collectively ensure participation across the projects. This project will coordinate with and share best practices and lessons learned with the UNEP-supported regional IAS project working in four Pacific nations and developing important knowledge products, technical support and systems for adaptive learning in IAS management in the Pacific. This collaboration is further detailed in *Part iv) South-south and Triangular Cooperation*. Additionally, efforts would be made to share information with the GEF-financed UNEP-supported *Preventing costs for IAS* project in the Caribbean that seeks to undertake pathway analysis and risk assessment for IAS.

This project will contribute significantly to improving communication and promoting collaboration within and between different government agencies involved in biosecurity and biodiversity protection. While BAF is the lead Implementing Partner, it will improve collaboration with the Department of Environment, Fiji Revenue and Customs Authority (FRCA), and Airports Fiji Limited through the project's main focus on improving biosecurity in the country. Horizontal linkages and collaboration will therefore be strengthened between these central government institutions and other entities that seek to ensure the protection of native species and ecosystems that might be impacted by the entry and establishment of IAS. Stronger linkages and collaboration will also be promoted between central and local government structures and institutions, in particular with regional and district administrations in the four-islands group, as well as NGOs, the latter to share lessons and best practices and expand the constituencies for IAS protection and management. These partnerships will be strengthened through a number of institutional mechanisms

envisaged under the project, including the establishment of a national multi-stakeholder, multi-sector IAS committee and the reconstitution of FIST. It will also support collaboration at the four-island site by formation of FIIT. The role of the Project Board and the Project Implementation Unit will further ensure that partnerships work and interactions are kept functional. UNDP, with its oversight role, and as a development partner with the Government of Fiji, will play a central role in ensuring that these partnerships work, and it will liaise at the highest level with government to ensure that the project delivers the development results as agreed between the GEF, UNDP and the government.

The project will also connect to other efforts in Fiji that have an IAS component and/or a need to consider IAS matters. These include the Pacific Adaptation to Climate Change (PACC) Programme of SPREP which has a primary objective of developing crop resilience/food security within Fiji – facilitating this work will require prevention of IAS incursions and managing a variety of existing IAS that impact crops. This project will also coordinate with other efforts to improve conservation of significant biodiversity on Taveuni, such as BirdLife's project to improve the protection of the Fiji Petrel that is thought to roost in the high lands of Taveuni. As nesting locations are better defined, IAS prevention and management tactics can and will support efforts to insure this species and its nesting environments receive the best possible protection from IAS. Coordination efforts will help ensure that any IAS actions implemented by SPREP and Birdlife under these initiatives are aligned to the outcomes of this project, and conducted in consultation with BAF, NEC and other stakeholders.

iii.   Stakeholder engagement:

The project included a wide range of consultations during the PPG stage. Initial stakeholder analysis during the PIF stage was followed up with consultation during the PPG stage in terms of the design and expectation of the project. During the PPG stage, this stakeholder analysis was updated and elaborated following consultations undertaken by the consultant team addressing both institutional stakeholders in the context of their statutory involvement in the project, and more broadly for non-governmental stakeholders and local communities in the four islands. A stakeholder validation workshop was held in August 2016 in Suva to obtain the perspectives of the different stakeholders to the proposed strategy to address IAS issues in Fiji, and to the eradication of GII from the four-island group, as well as to discuss project design, outcomes and outputs, and opportunities for collaboration. The stakeholder workshop was attended by many government agencies including Forestry and Fisheries, Environment, Public Enterprise, Defense and Police, Revenue and Customs, along with the Fiji National University, University of South Pacific, and CSOs. Additionally, a formal stakeholder analysis was undertaken by the PPG team and documented as part of the project. A list of the agencies, organizations and stakeholders consulted during project development is included as Annex 8.

The purpose of the Stakeholder Involvement Plan (SIP) is to ensure the long-term and effective participation of stakeholders in the project. These objectives will be achieved by: (i) identifying the main stakeholders of the project and defining their roles and responsibilities in relation to the project; and (ii) taking advantage of the experience and skills of the main stakeholders so as to safeguard their active participation in different activities of the project and reduce obstacles in its implementation and

sustainability after completion of the project. The approach is based on the principles of ensuring fairness and transparency, improving consultation, engagement and empowerment, improving coordination between stakeholders, improving access to information and project results; and ensuring accountability, addressing grievances and ensuring sustainability of project interventions after its completion.

BAF will be instrumental in establishing coordinative and collaborative links with key government and non-government partners and other stakeholders during the implementation of the project. To the extent necessary, BAF will collaborate with the Taveuni and Government District Committees to promote outreach and galvanize broad local and community support for eradication of the GII from Taveuni and surrounding islands.

Identification of Potential Stakeholders

The SIP was prepared by identifying those stakeholders that would be involved as partners in the project. Stakeholders at national, island, and local levels - including relevant government ministries such as Environment, Agriculture, Fisheries and Forestry, *iTaukei* Affairs, Health, Lands and Education and their respective line agencies such as Department of Environment, AFL, FRCA, Fiji Police, Maritime Safety Authority and Northern Division Offices of various Ministries and Departments, NGOs, academic institutions, hoteliers and resort owners, and local communities.

Role and responsibilities of key stakeholders and their Involvement Mechanisms and Strategies

The identified stakeholders will have specific roles to play in implementing the project and were consulted on the project and their roles in project implementation during project development. Mechanisms and strategies for stakeholder involvement will ensure that relevant shareholders receive and share information, provide input in the planning, design, implementation, monitoring and evaluation of project initiatives, and play a role in sustaining the initiatives during and following the closure of the project. Roles and responsibilities of main stakeholders of the project are summarized in Table 2. These will be further defined during the project inception phase and collated in a stakeholder engagement strategy with time-bound actions and responsibilities. The strategy will be reviewed annually, and request the feedback of key stakeholders to support this process.

The following initiatives will be completed to ensure participation of stakeholders in project activities:

Project inception arrangements

1a) Inception workshop

Project stakeholders will participate in the multi-stakeholder project inception workshop that would be held within three months of the start of the project. The purpose of the workshop will be to create awareness among stakeholders of the project objective and outcomes and to define their individual roles and responsibilities in project planning, implementation and monitoring. The stakeholders will be acquainted with the most updated information (objective, components, activities, roles and responsibilities of stakeholders, financial information, timing of activities and expected outcomes) and the project work plan. The workshop will assist the partners to understand the project design, understand their role and responsibilities in the project including implementation, monitoring, reporting and

communication, conflict resolution and grievance-redress mechanisms. The workshop will be the first step in the process to build partnerships with the range of project stakeholders and ensure that they have ownership of the project. It will also establish a basis for further consultation as the project's implementation commences.

1b) Constitution of Project Board

See detail in *Section VIII Governance and Management Arrangements.*

1c) Establishment of the Project Implementation Unit

See detail in *Section VIII Governance and Management Arrangements.*

Project implementation arrangements

a) Establishment of national and sub-national IAS advisory and technical committees

See detail in *Section VIII Governance and Management Arrangements,* and Outputs 1.1 and 2.2*.*

b) Stakeholder participation outreach program

The project design explicitly incorporates mechanisms to directly involve local communities and stakeholders with a responsibility for effective management of IAS. An outreach strategy will be developed and implemented to ensure effective participation of stakeholders, including local *iTaukei* communities, Fijian of Indian descent communities, resort owners and tour operators. Outreach efforts will be well planned and initiated by the hiring of an international consultant to facilitate and lead efforts to develop an outreach program. The outreach program is intended to bring together the diverse cohort of partners that will be needed to ensure that both the planning and the on-the-ground activities are comprehensive and targeted to significantly improving community ownership and support for IAS prevention and management across the four-island group, initially. Public outreach will be used to inform the citizenry of the threat the invasive species pose to their future livelihoods and seek from them all recent reports of iguana sightings and their cooperation in quickly reporting any further sightings. Once this outreach effort has been successful, it can be used as a blue print for developing and implementing similar programs throughout the remainder of the country. The outreach program will involve numerous partners including *iTaukei* Affairs, Education, BAF, Ministry of the Environment, USP and other existing groups with existing supportive capacity. This output will ensure the use of communication techniques and approaches appropriate to the local context such as appropriate languages and other skills that enhance communication effectiveness.

b) Quarterly meetings with key stakeholders

On a quarterly basis, the PIU will organize meetings with the main stakeholders, including groups of local communities in the four-island area with the aim of discussing achievements, challenges faced, corrective steps taken, and future corrective actions needed for implementation of planned activities. It will be ensured that local communities have the participation of women, all ethnic groups and include participation of local stakeholders such as resort owners and tour operators and village leaders among the local communities. Result-based management and reporting will consider inputs taken from stakeholders during such meetings.

c) Project communications

The project will develop, implement and annually update a communications strategy to ensure that all stakeholders are informed on an ongoing basis about: the project's objectives; the project's activities; overall project progress; and the opportunities for stakeholders' involvement in various aspects of the project's implementation. Copies of the annual and quarterly progress reports and work plans will be circulated to main stakeholders such as National IAS Committee, NEC, FIST and UNDP to inform them about project implementation and planning and outcomes.

Table 2: Stakeholder Involvement Plan

Stakeholder	Role and responsibilities	Broad role in project implementation	Specific involvement mechanisms	Geographic scale of involvement
Biosecurity Authority of Fiji (BAF)	Key government agency responsible for biosecurity in Fiji. Is involved with monitoring, prevention, control and eradication, as well as promoting biosecurity among the different sectors in the country, coordination of biosecurity actions, training, establishing regulations and standards, community outreach and awareness creation.	Implementing Partner with overall responsibility for outcomes of the project	Chair of Project Board Convene inception workshop. Member of national IAS committee Chairmanship and convener of Fiji Invasive Species Taskforce (FIST) Development of stakeholder outreach program.	Regional National Four-island area Local
Ministry of Public Enterprises	Responsible for overseeing reform and monitoring of public enterprises to facilitate improvement in services to the public. Ministry under which BAF falls.	Responsible for budgetary and administrative aspects related to BAF. An important advocate for the project at national level	Inception workshop. Member of Project Board (including BAF representation). Member of national IAS committee.	National
Ministry of Industry, Trade and Tourism	Tourism and trade promotion entity of the Fijian government.	Creation of awareness in the tourism and trade sectors on IAS issues	Inception workshop. Member of national IAS committee.	Global (trade, tourism) National
Ministry of Agriculture	Responsible for maintaining food security through extension and research services for livestock and crops, commodity projects, building capacity of farmers to increase production, sustainable management of natural resources through flood protection and sustainable land management.	Its National Disaster Management Office can be potential lead partner for rapid-response action relating to IAS	Inception workshop. Member of national IAS committee. Member of FIST (Fiji Quarantine and Inspection Division).	National Four-island area Local
Ministry of Fisheries and Forestry	Responsible for the formulation and implementation of policies to promote best practice in Fisheries and Forestry sector.	Important partner for ensuring prevention of entry of forest pests into the country, undertakes pest risk analysis for incoming seeds and plants for BAF	Inception workshop. Member of national IAS committee. Member of FIST (Department of Forests, Department of Fisheries).	National
Ministry of *iTaukei* Affairs	Responsible for developing, maintaining and promoting policies that will provide for the continued good governance and welfare of the *iTaukei* or native people in the country. The Ministry operates at the district and provincial level.	Support for community awareness and outreach, particularly at local level and with communities in four-island area	Inception workshop. Member of national IAS committee. Member of FIST. Development of stakeholder outreach program. Participation in GII eradication outreach in four island sites.	National Four-island area Local
Ministry of Local Government, Housing and	Focused on legislative reviews, urban planning and managing the impacts of rapid urbanization, municipal reforms, fire protection and disaster	Its Department of Environment provides overall environmental guidance and oversight, monitoring	Inception workshop. Member of Project Board. Member of national IAS committee.	Global (GEF OFP) National

Environment	management, and control and regulation of land use.	and reporting to various conventions and international agreements.	Member of FIST. Reporting to GEF. Development of stakeholder outreach program.	
Ministry of Health and Medical Services	Overseas management and control of IAS- related diseases.	Awareness raising and training on health-related IAS concerns	Inception workshop. Member of national IAS committee.	National Four-island area
Ministry of Education	Concerned with broad policy issues on all aspects of education and ensuring that available resources are judiciously allocated and put to optimum use to ensure that relevance and quality of education provided at all levels of the education system particularly in rural areas.	Supporting awareness by including IAS in all levels of curriculum	Inception workshop. Participation in training activities. Development of stakeholder outreach program.	National Four-island area
Ministry of Defense, Police and Military	Maintaining law and order and upholding rule of law effectively.	Enforcing and strengthening collaboration with BAF in biosecurity measures	Inception workshop. Member of FIST. Training of GII eradication teams in use of firearms.	National Four-island area
Fiji Revenue and Customs Authority (FRCA)	Responsible for enforcement of control of imports and exports from the country, including IAS and pests, in collaboration with BAF.	Collaboration with BAF to improve enforcement of biosecurity regulations at borders	Inception workshop. Member of FIST. Participation in training activities.	National Four-island area
Airports Fiji Limited (AFL)	Responsible for control and management of travellers into and within Fiji, including biosecurity related issues in collaboration with BAF.	Collaboration with BAF to improve enforcement of biosecurity regulations at borders	Inception workshop. Participation in training activities.	National
Northern Division Offices of Agriculture, Environment, *iTaukei,* etc.	Local extension and implementation of mandates and activities of host Ministries.	Providing extension support for Ministry activities at the division level.	Members of Four Island IAS Taskforce (FIIT). Development of local outreach program. Participate in related activities at four islands including training.	Four-island area
Resort Owners on four island site	Operate and runs resorts on the islands of Taveuni, Qamea, Matagi and Laucala, and responsible for tourist lodging, recreation and food.	Collaboration with BAF and GII eradication teams in undertaking biosecurity measures	Regular consultations, meetings, and information sharing. Staff participation in outreach activities and training and communication on GII sightings. Members of Four Island IAS Taskforce (FIIT).	Four-island area

Local communities on four-island sites	Mainly farmers, skilled workers, local government staff, small-business persons, etc.	Provide support for GII eradication and biosecurity measures Share responsibility for IAS prevention, control and management at local level	Participate in outreach and information sharing. Contribute to GII search efforts and share sighting information. Will be invited to serve as members of four island IAS committee/ taskforce	Four-island area Local
Academic, research and regional institutions (SPREP, FNU, USP, etc.)	Academic courses, taxonomic and IAS related research, etc.	Training, education and capacity building relating to IAS, identification of new pests, etc.	Inception workshop. Support for development of IAS databases and clearinghouse mechanism, including provision of data. Participate in NISFSAP, EDRR, risk assessment. Development of stakeholder outreach program.	Global (learning and networks) National Four-island area
Non-governmental organizations (CI, IUCN, BirdLife, WWF, etc.)	Involved in a range of activities (biological surveys, IAS eradication, community conservation initiatives, financing local initiatives, environmental education, etc.)	Sharing of lessons and best practices, training and outreach resources, etc.	Inception workshop. Potential members of FIST through independent EOI process. Participate in NISFSAP, EDRR, risk assessment. Development of stakeholder outreach program. Exchange of lessons and experiences including regional workshops	Global (learning and networks) National Four-island area Local
Pacific Invasive Partnership (PIP) and Pacific Invasive Learning Network (PILN)	PIP is umbrella regional coordinating body (coordinated by Island Conservation with Fiji members being Birdlife International, Secretariat of the Pacific Community, and the University of the South Pacific) and for agencies working on IAS in more than one country of the Pacific and PILN is a network for invasive species workers in the countries and territories themselves.	Opportunities for South-South cooperation and mutually beneficial learning.	Inception workshop. Exchange of lessons and experiences including regional workshops	Regional

iv. <u>Mainstreaming gender</u>:

Fiji has made considerable progress in recognizing gender issues in relation to legal and human rights and gender and development, as reflected in legislative and policy progress since 1988[2]. It has made commitments to eight major international agreements and programs for action on gender equality and advancement of women. It is committed to achieving the Millennium Development Goals (MDGs) – and the subsequent Sustainable Development Goals (SDGs) – including those associated directly or indirectly with the status of women and gender equality. The National Gender Policy provides a framework for including gender perspectives in all activities of government and civil society, thereby promoting full and equal participation of men and women in the development process. The policy is consistent with the Government's commitment to implementing the Women's Plan of Action (WPA 2010-2019) based on the Beijing Platform for Action, and with Fiji's commitment to the Convention on the Elimination of Discrimination against Women.

In terms of BAF, over 40% of staff that include technical specialists are women. They will benefit professionally from the training, capacity development, new technologies and tools that will be used by the project. In addition, BAF incorporates several measures to promote the role of women, which under the project are envisaged to include:

- Capacity building and training activities will ensure that at least 40% of participants are women.
- Efforts will be made to encourage women's participation in outreach activities (at least 40% representation) and actively attend outreach events and participate in various project initiatives.
- Outreach teams at Taveuni will include women who will be involved in the outreach promotion to encourage greater participation of women from local communities in GII eradication and biosecurity.
- Outreach and communication strategy will have a specific gender focus.
- The use of gender-sensitive indicators and collection of sex-disaggregated data for monitoring project outcomes and impacts will be undertaken.
- Qualified women will be encouraged to apply for positions, under BAF rules and regulations.
- Promotion of adequate representation and active participation of women in project specific committees, technical workshops, strategic planning events.

A gender strategy and action plan is provided in Annex 17.

v. <u>South-South and Triangular Cooperation</u> (SSTrC):

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[2] Asian Development Bank. Country Gender Assessment (2006).

This project is specific to Fiji, but it has implications for the rest of the Pacific that is extremely vulnerable to the introduction of IAS. The project will collaborate with a variety of other projects that are both on-going and currently under development (as summarized in *Section IV Part ii. Partnerships*).

Collaboration, coordination and synergistic projects are expected to be critical elements of improving biosecurity and IAS protection within Fiji and also regionally. The GEF-financed UNEP-supported regional IAS project (to be implemented in the Marshall Islands, Niue, Tonga and Tuvalu) and this Fiji IAS project will be linked and work collaboratively, as both projects are facilitating the improvement of biosecurity and IAS management within specific countries, which in many cases are trade partners and which already work collaboratively in a variety of IAS initiatives. These efforts and others will only be enhanced with biosecurity and IAS management activity improvements at the country level, which in turn will foster regional improvements.

In terms of the proposed UNEP-supported GEF project for the Pacific, there are a number of activities that are directly relevant to this project that will benefit IAS and biosecurity actions throughout the Pacific. Component 1 of the UNEP-supported project seeks to strengthen IAS legislation, regulations and policies and development and updates of NISSAP that that are extremely relevant to the Fiji IAS project as is Component 2 on risk assessment and baseline studies on IAS. In addition Component 3 of the UNEP-supported project focuses on EDRR protocols, risk mitigation measures and pilot eradication activities, while Component 4 deals with establishing a Pacific islands regional framework for IAS management, including establishing information systems for delivery of case studies, guidelines, operational procedures and tools for IAS management. The Fiji IAS project will ensure close linkages with the UNEP-supported regional project and other Pacific initiatives to share information and best practices, through participation in regional databases, regional workshops and lesson sharing events, and ensuring that Fiji biosecurity staff attend regional workshops and conferences to learn of experiences from other parts of the Pacific. The knowledge management component of this project in Fiji intends to capture such learnings and experience that can be shared with other countries through regional networks, meetings, conferences and other mechanisms. The specific mechanisms for this collaboration will be further defined during the inception of the Fiji project and the project development phase of the UNEP-supported regional project.

V.   FEASIBILITY

i.   Cost efficiency and effectiveness:

The project is designed to ensure that investments are the most cost effective so that project approaches and institutional mechanisms are easily replicated and scaled up using existing budgetary constraints operative within Fiji. Removing barriers that impede the comprehensive management of IAS in the country will vastly improve conservation of vulnerable ecosystems that contain biodiversity of global significance.

The project will use existing government and local-level institutional arrangements for delivery of project interventions, rather than create additional and costly alternative project-specific institutions. In

particular, the project will operate through the existing institutional arrangements within BAF in Nadi and Suva and through its front-line staff positions outside of Viti Levu to help coordinate, oversee and implement project-related activities. Most importantly, the project will build on and complement existing national and district government programs and NGO programs for improving biosecurity and eradication measures so as to engineer a more comprehensive approach to better protect the country from IAS threats. This is a very cost effective approach, because it does not add significant personnel resources to biosecurity, but instead uses existing national, state, private sector and community resources to demonstrate a comprehensive approach that meets both conservation and local community participation. Most project investment is geared toward improving training of existing staff through interaction with outside technical experts. The project will also set up a national multi-sectoral and multi-sectoral mechanism to deal with IAS issues. This multi-sectoral approach will ensure the best possible use of resources and capacities and likewise ensuring the best possible outcomes, including: prevention, management, eradication, awareness and restoration as needed and when feasible.

The project also upgrades technological capacities in Fiji for responding to IAS. In terms of eradication, firstly, it will use less expensive rifles than more sophisticated interventions. Secondly, it will make use of trained local dogs and dog handlers that are more suited to the environmental conditions of Fiji. Thirdly it will train local villagers to be able to detect and shoot GII. Fourthly, it will support an extensive outreach program to get local communities more vigilant and report any GII sighting, which will increase the number of persons involved in efforts to locate and eradicate GII. Work to identify actual and potential impacts on livelihoods will be used to inform outreach campaigns and support these efforts. These are cost-effective approaches to GII eradication.

ii.   Risk Management:

As per standard UNDP requirements, the Project Coordinator will monitor risks quarterly and report on the status of risks to the UNDP Country Office. The UNDP Country Office will record progress in the UNDP ATLAS risk log. Risks will be reported as critical when the impact and probablity are high (i.e. when impact is rated as 5, and when impact is rated as 4 and probability is rated at 3 or higher). Management responses to critical risks will also be reported to the GEF in the annual PIR. The projected risks, impacts and mitigation measures are discussed in Table 3 below.

Table 3: Project Risks, Impacts and Management Measures

Description	Type	Impact & Probability	Mitigation Measures	Owner
Conflicts of interest and different priorities of stakeholders constrain implementation of activities	Political	Local communities might display resistance to the killing of GII, which may have a profound impact of locating and eradicating GIIs. Consequently, the long term impact might be the non-containment of GIIs within the four islands and elsewhere in Fiji P=3; I=3 (Moderate)	Needs and priorities of stakeholders will be identified, and constructive dialogue, joint planning and problem solving will be promoted through the multi-stakeholder, inter-sectoral coordination mechanism. Interest will also be fostered among stakeholders by making the economic case for strengthened biosecurity measures to prevent and control IAS.	BAF

Insufficient funding to continue necessary IAS management after the project ends	Financial	The lack of funding can have a serious impact on improving biosecurity measures in Fiji, in particular the control and spread of IAS between islands as well as sustaining the eradication effort beyond the life of the GEF project, which is necessary to completely eradicate GIIs from the country. P=1; I=4 (Moderate)	Governmental support for biosecurity and IAS management has increased in recent years along with an increased awareness of the economic/ environmental impacts of IAS. While, this is encouraging and likely to continue, significant additional budgetary resources would be required in the future to deal with the expanding threat of IAS, including strengthening inter-island biosecurity, developing early detection and rapid response systems, strengthening awareness and improving risk assessment for organisms proposed for import. The project will take advantage of the government commitment to biosecurity to continue to raise awareness, and bring in further information to guide decision making on investments, including providing with detailed analysis of the overall cost of IAS to the Fiji economy and promote increased and efficient government budget allocations and revenue generation for IAS management over the long-term.	Ministry of Economy, Public Enterprise, Public Services and Communication (MEPEPSC)
Governmental agencies/ private companies unwilling to share information/ data	Organizational	The lack of a comprehensive IAS informational sources at the national level, constraints the effective prevention, management and awareness of IAS in Fiji as existing knowledge and information will not be readily accessible to all stakeholders and no comprehensive source of information will exist. P=3; I=2 (Moderate)	Information and knowledge generation, management and dissemination are a key component of this project. Open-access and the mutual benefits of information sharing will be included in all agreements for databases, websites, etc. sponsored by the project.	Ministry of Economy, Public Enterprise, Public Services and Communication (MEPEPSC)
Local knowledge and personnel resources may not be adequate to guarantee comprehensive planning and implementation	Organizational	While BAF and its partner agencies have significant numbers of front-line staff, training opportunities are limited. Front-line staff do not have full knowledge in terms of pest identification, control measures, eradication methods, etc. Mid-level staff that should be involved in policy setting tasks appear limited. Technical capacities to identify pathways, commodities and organisms that present an IAS risk, or to measure the threats and impacts of IAS, are still rudimentary. Information on the economic impacts of IAS (on biodiversity, livelihoods and key economic sectors) and the costs	A needs assessment for capacity building of government, district and local community organizations would be undertaken, following which a comprehensive training strategy and plan for front-line staff and local communities would be designed and developed early during project implementation. International experts will be hired to facilitate the conduct of the training programs, as well as staff will be able to participate in regional training programs. Training programs would be regularly evaluated for their effectiveness and adjusted to meet the needs. BAF will recruit and/or promote and train a coterie of mid-level planning staff. In addition, BAF will recruit additional front-line staff who would be sufficiently trained and posted to	BAF

		of different interventions is not available P=2; I=3 (Moderate)	improve its capacity on the four islands site for reducing the potential for unwanted non-native species to enter and establish within the country or portions of the country for those IAS which are already established but not wide spread. A comprehensive strategy for GII eradication would be developed and implemented, along with specialized training to improve staff skills at survey and detection of GIIs and in improved eradication methods.	
Not all GIIs are likely to be killed during an eradication operation because animals are difficult to detect	Environmental	The arboreal and shy nature of the GII makes detection of animals very difficult. As a result, it is yet unknown whether most animals can be placed at risk of removal. I = 3; P = 3 (Moderate)	Iguana detection is very difficult, but capture probability can be improved by targeting females at nesting sites and by using canine teams. Use of rifles will greatly improve removal rates, and low-cost conservation drones will be tested for their ability to improve GII detectability.	BAF
Eradication activities of Giant Invasive Iguana (GII) under the project may pose a risk to native endangered species (Fiji banded iguana; *Brachylophus bulabula*) if not conducted properly.	Environmental	Because juveniles of the native and invasive Iguana species are similar in appearance, there is potential for inadvertent removal of native Iguanas during the eradication process I = 2; P = 1 (Low)	All personnel involved in eradication are properly trained in identification and distinction of the two species (there are differences in morphology and behavior). The project will also support awareness campaigns to increase public understanding of the differences between the native and invasive iguana and the risks posed by the invasive. A risk assessment of the eradication plan developed by the project will be conducted, and corresponding management and mitigation measures incorporated into the eradication plan.	BAF
Inability to fully predict all aspects of species invasiveness and establishment is a challenge	Technical	Because the ability to anticipate IAS entry and establishment to the country is unpredictable, its management and control requires adequate preparedness and resources to respond to any eventuality I =3; P =3 (Moderate)	The development of an Early Detection and Rapid Response (EDRR) plan, initially as a trial in Viti Levu, will include: (1) a database of baseline information on IAS already established on Viti Levu and their distributions, (2) an EDRR plan for Viti Levu that assigns roles and responsibilities of all EDRR partners, (3) a protocol for how rapid-response actions will be implemented, (4) a central hotline that the public can use to report suspicious new plants and animals, (5) a regime of regular monitoring surveys at likely introduction sites for IAS (e.g., ports, nurseries) to discover new incursions, (6) an outreach strategy to inform residents and institutional stakeholders of the need for vigilance and rapid reporting of new pests, (7) a training program for rapid responders, and (8) a dedicated rapid-response fund to pay for program activities. Once	BAF and partners

			trialed in Viti Levu, it would be expanded nationally based on the initial learning.	
Climate change may alter the threats and risks associated with IAS	Environmental	While, this is very unlikely, climate change may raise the threat of IAS by increasing the frequency/severity of fires, floods, and other natural events and thereby decreasing ecosystem resilience and creating conditions where invasive species can more easily become established. The exact ways and timeframes over which climate change impacts will emerge are largely unknown, however they are expected to increase over time, most likely affecting localized expansion of suitable IAS range and species introductions in the short to medium-term. I = 3; P=3 (Moderate)	Climate change may raise the threat of IAS by increasing the frequency/severity of fires, floods, etc. and thereby decreasing ecosystem resilience and creating conditions where invasive species can more easily become established. Climatic parameters will be included in the IAS risk analysis activities to be undertaken in the project as well as in the National Invasive Species Framework and Strategic Action Plan (NISFSAP).	MOE and BAF

iii.   <u>Social and environmental safeguards:</u>

The UNDP Environmental and social safeguard requirements have been followed in the development of the GEF-financed project. In accordance with the UNDP Social and Environmental Screening Procedure, the project is categorized as medium risk and is not expected to have significant negative environmental or social impacts that cannot be effectively managed through simple risk management actions. The potential impacts or grievances, if any, would be reported to the GEF in the annual PIR. Annex 14 (Social and Environmental Screening Report) provides more details.

iv.   <u>Sustainability and Scaling Up</u>:

a) Innovative aspects:

Fiji's move from an agricultural-based quarantine program to a more holistic biosecurity approach is an innovative and modern approach to managing IAS that is rarely seen in the developing world. Further, this biosecurity program was initially developed largely to address international travel and goods, but it is now being extended to inter-island transport as well, which is also practiced in a few countries. The EDRR system to be developed and tested at Viti Levu through this investment is a new approach for Fiji, but is critical for any comprehensive biosecurity program. It too is innovative, and would set Fiji apart as a leader in biosecurity protection. The creation of a national multi-stakeholder and multi-sector coordination mechanism for biosecurity activities will ensure that resources and countrywide capacity are being used as effectively as possible. Its successful implementation will also put Fiji on the cutting edge of biosecurity management.

More importantly, the proposed GII eradication activities represent a pioneering effort to remove an

invasive reptilian species before it becomes hopelessly invasive and damaging. The Government of Fiji has decided that they must act urgently to eradicate the GII. This is a very forward-looking strategy for a developing nation to take and bespeaks the commitment of the Fijian Government to improving the nation's biosecurity. If successful, this would perhaps be the first reptile eradication effort in the world, and that precedent would provide good lessons for other countries interested in proactively dealing with reptilian IAS invasions.

b) Financial and Institutional Sustainability:

The Government of Fiji is fully committed to protecting the country from the introduction of IAS, as is made clear through the establishment of a separate statutory agency for biosecurity. Placement of BAF under the Ministry of Economy, Public Enterprises, Public Services and Communication promotes institutional sustainability for biosecurity activities because this ministry has a well-established revenue collection (i.e. cost-recovery) mechanism to improve and expand overall biosecurity in the country. The annual revenue generated by BAF is currently around USD 4 million, and this is likely to grow further as BAF's outreach expands. These revenues are used to improve biosecurity detection, surveillance and monitoring systems within the country. The broadening of the current cost-recovery system will be supported by this project, for example through the development of IAS regulations that provide for fees and fines for biosecurity-related activities and ensure that these monies are entered into suitable financial mechanisms (e.g. revolving fund) that in turn can be used to finance improved/strengthened/broadened IAS management activities (Output 1.2).

The government commitment is further demonstrated by the fact that BAF has over 200 front-line officers with facilities at all international ports (sea and air) and on-going services at all major domestic seaports. What is more, they have initiated efforts to respond to GII and other invaders within the country and have modern supportive legislation in the form of the 2008 Biosecurity Promulgation. The government also provides significant resources and manpower to BAF's partner agencies to support BAF in dealing with biosecurity issues in the country.

Irrespective of GEF funding, one can expect that government financial support will continue into the future. BAF and its partners are committed to increase staff and resources for GII eradication in the four-island site, expand biosecurity activities to include inter-island transport, upgrade and expand existing scanning and incineration facilities at international and domestic airports and seaports, improve detection and surveillance measures, and improve risk management and information exchange as a long-term commitment from the government. The intent of the GEF increment is to complement existing government activities by helping build the capacity of existing public institutions (particularly that of BAF and its partner agencies such as AFL and FRCA and the local communities) to work in integrated ways to reduce the threat of IAS. The project will further strengthen existing alliances, and build new ones, for IAS exclusion, control and management and consequently the conservation of Fiji's rich biodiversity. This, along with the broadening of cost-recovery and a greater sense of stakeholder responsibility for biosecurity facilitated by this project will help guarantee the institutional and financial sustainability of biosecurity activities in the country.

To facilitate long-term sustainability of the existing biosecurity activities in the country, the project would ensure the following:

- Carefully tailored training and capacity building to expand the skills of the biosecurity staff, within and outside BAF.
- New technologies and tools are introduced for detection, surveillance and eradication of IAS.
- New and strengthened collaborations for comprehensive IAS management and control are developed in the country, through establishment of a national coordinating body for IAS, reconstitution of FIST, preparation of NISFSAP, risk assessment and data management and sharing.
- Outreach and awareness developed to build local community and stakeholder support for biosecurity and IAS eradication.
- Improved cost-recovery system and financial mechanisms to cover biosecurity activities in Fiji.
- Multiple project activities will be based on and disseminate the core message of "IAS and biosecurity is everyone's responsibility".

c. Potential for scale-up:

The EDRR system developed and tested at Viti Levu through this investment will be replicated elsewhere in Fiji until it becomes national in scope. BAF will integrate the lessons learned from demonstrating the EDRR system and IAS management in islands into its information management systems and share the results nationally to promote replication at other sites during and after the project. In addition, the project will address measures to reduce or eliminate risky practices in key pathway sectors and will develop practical experience for IAS management by implementing strategic programs at selected sites encompassing high-priority ecosystems such as Taveuni. These will enable the Government of Fiji to determine cost-effective IAS management practices in the long-term and provide models for replication.

Capacity building at BAF, the development of the NISFSAP, and the expansion of BAF's multi-year strategy and outreach program will strongly support further up-scaling throughout Fiji. The involvement of NGOs, private enterprises and local communities is also expected to lead to further support and commitment to up-scaling of the project's actions and successes. Improvement in capacity, awareness and regulatory frameworks will ensure post-project sustainability and encourage investments from public and private sector in biosecurity control and management, also contributing to up-scaling.

In summary, it can be clearly stated that the viability of long-term sustainability and replicability of these approaches is assured given existing and planned level of Government commitment, programs and resources available for biosecurity in the country. The project also focuses on supporting BAF's current business model on biosecurity which allows for channeling revenues to other islands in the country that were not part of the initial biosecurity focus and management of BAF.

   v.   Economic and/or financial analysis: Not Applicable

VI.   PROJECT RESULTS FRAMEWORK

This project will contribute to the following Sustainable Development Goal (s): Goal 15 – Life on Land and Goal 5: Achieve gender equality and empower all women and girls
This project will contribute to the following country outcome included in the UNDAF/Country Program Document: UNDAF for the Pacific Sub-region 2013-2017 Outcome Area 1: Environmental management, climate change and disaster risk management UNDAF Outcome 1.1: Improved Resilience of PICTs, with a particular focus on communities, through integrated implementation of sustainable environmental management, climate change adaptation/mitigation, and disaster risk management
This project will be linked to the following output of the UNDP Strategic Plan: Output 2.5. Legal and regulatory frameworks, policies and institutions enabled to ensure the conservation, sustainable use, access and benefit sharing of natural resources, biodiversity and ecosystems, in line with international conventions and national legislation

	Objective and Outcome Indicators	Baseline	Mid-term Target	End of Project Target	Risks and Assumptions
Project Objective To improve the chances of the long-term survival of terrestrial endemic and threatened species on Taveuni Island, surrounding islets and throughout Fiji by building national and local capacity to manage Invasive Alien Species	0.1: Extent to which legal or policy or institutional frameworks are in place for conservation, sustainable use, and access and benefit sharing of natural resources, biodiversity and ecosystems. *(UNDP mandatory indicator: IRRF Output 2.5 indicator 2.5.1)*	NISFSAP under development Long-term strategy for BAF non-existent Specific, targeted IAS legislation non-existent	NISFSAP completed through collaborative, multi-agency process BAF long-term strategy completed Legislative framework related to IAS reviewed and needed legislative revisions identified and drafted	NISFSAP endorsed by national IAS Committee with committed resources for implementation BAF long-term strategy adopted and under implementation Specific legislation and regulations for IAS adopted and in place	Assumptions - Relevant agencies are willing to cooperate fully - Cabinet support for adopting legislative reforms required
	0.2: Number of direct project beneficiaries *(UNDP mandatory indicator)*	0	At least 170 BAF and other relevant government staff engaged in training and awareness activities (40% of which are women) At least 500 local people in four islands area are	At least 270[3] BAF and other relevant government staff engaged in training and awareness activities (40% of which are women) At least 800[4] local people in four islands	Assumptions - Continuing level of political will to support the project interventions -Local communities, tour operators, resort owners, importers and shipping agents recognize the benefits of IAS prevention and control

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[3] Includes 200 national BAF and partner agency staff, 20 BAF and partner staff in Taveuni and three islets and 50 staff trained specifically for the eradication work in Outcome 3.

[4]   Includes (i) 50 local villages directly hired for eradication work, (ii) estimated 600 community members actively engaged in volunteering searching for GII and hence benefit from their eradication, (iii) and estimated 150

			engaged in project activities (40% of which are women)	area are engaged in project activities (40% of which are women)	
	0.3: Comprehensiveness of national level IAS management framework and ability to prevent IAS of high risk to biodiversity from entering Fiji, as measured by IAS Tracking Tool	IAS Tracking Tool Score of 4 (out of total of 27) due to lack of national coordinating mechanism; no IAS strategy; detection surveys non-existent; priority pathways not actively managed, etc	An increase score of at least 8 in IAS Tracking Tool with established national coordination mechanism, IAS strategy exists, priority pathways identified, detection survey methods agreed, and criteria for prioritization of species and infestations defined	An increase score of at least to 12 in IAS Tracking Tool with national coordinating mechanism overseeing IAS actions codified by law; IAS strategy under implementation: regulations in place to implement National IAS strategy; priority pathways actively managed; detection surveys conducted regularly, etc	Risks: -Relevant agencies may not be willing to cooperate fully Assumptions: -Willingness within the GoF to commit funding/resources to the management of IAS that impact biodiversity -Improved BAF revenue generation -National and international macroeconomic conditions remain stable.
	0.4: Level of government funding and revenues for biosecurity in Fiji	USD 4.5 million/year in GOF budget allocation and USD 4.0 million/year in revenues	At least 10% increase to USD 4.95 million/year in GOF budget allocation and USD 4.4 million/year in revenues	At least 20% increase to USD 5.4 million/year in GOF budget allocation and USD 4.8 million/year in revenues	
Outcome 1 Strengthened IAS policy, institutions and coordination at the national level to reduce the risk of IAS entering Fiji	1.1: National and local capacity in detection, prevention and control of entry of high risk IAS, as measured by UNDP Capacity Development Scorecard	UNDP Capacity Development Score of 14 for BAF	UNDP Capacity Development Score of at least 17 for BAF	UNDP Capacity Development Score of at least 21 for BAF	Risks -Some agencies and/or sectors may have difficulty coordinating with other agencies and/or sectors
	1.2: Operational status of national level, multi-agency, multi-sector coordinating group for IAS activities, including biosecurity and management	Non-existent	TOR for multi-agency, multi-sectorial coordinating group agreed, and group established and first meeting conducted	Multi-agency, multi-sectorial coordinating group established, codified by national legislation, and functioning effectively	Assumption - Sufficient political interest for action on IAS -Willingness of institutions to share responsibilities
	1.3: Extent of biosecurity capacity for comprehensive prevention, early detection and rapid response (EDRR)	Risk assessment undertaken, but not comprehensive and do not have full coverage and	Risks assessment conducted for 60% of all organisms for import and documentation system developed and used	100% risk assessments for all organisms for import and systematically documented	Risks -Sufficient trained and committed personnel unavailable to provide adequate coverage

tour operators, resort owners, importers, tourists and shipping agents directly participating in IAS prevention and control.

		data records scattered in notebooks or non-existent			-Insufficient rapid-response resources and funding available to support EDRR activities
					-Differences between daily operations and rapid-response actions are not fully recognized and/or supported
		Some elements for early detection and rapid response exist but no comprehensive system available currently	Draft EDRR plan developed and clear concept developed for public reporting system. Field staff to implement EDDR in place and training initiated	Established EDRR capacity on Viti Levu serving as a national pilot and resources to support EDRR in place	Assumptions
					-Additional revenues can be developed to support inspection and quarantine services throughout the country
					-Adequate laws and regulations are in place to support improved inspection and quarantine services national wide
					-Legislation/regulations are in place to support EDRR actions and funding
					- Local actors understand the role of IAS management in reducing social vulnerability
					-Buy-in at all levels of society, including timely reporting of novel species encounters
Outcome 2 Enhanced IAS prevention, surveillance and control operations to prevent new introductions on Taveuni, Qamea, Laucala and Matagi	2.1: Number of new establishments of IAS species on Taveuni and islets, covering species listed in the Fiji black list and well as any high-risk IAS present in Fiji but not Taveuni	Baseline to be established in Year 1 as part of Output 1.3 (national black and white lists) and Output 2.1 (four-island specific black and white lists)	National black and white lists and four-island specific black and white lists of species established No new establishments from baseline	No new establishments from baseline	Risks -Means of ensuring public access to the data are uncertain Assumptions -Baseline surveys of IAS can be rapidly completed

	2.2: Capacity and engagement of biosecurity personnel and partners for inspection, control and management to prevent entry and inter-island IAS spread	Currently limited to 2 weeks general training Low level of biosecurity inspection of goods, persons and vectors arriving at islands	Standardized systems and processes developed and in place for inspection of good, persons and vectors arriving at islands, required new staff for increased inspection and biosecurity are in place Comprehensive training program developed and 80% of existing frontline staff trained and undertaking random inspections of passengers and goods at airports and cargo ports	100% of frontline staff (around 20 biosecurity, police, customs staff etc, of which 40% are women) trained and undertaking random inspections of passengers and goods at airports and cargo ports At least 50% of goods, persons and vectors (transport vehicles) arriving at islands are subject to biosecurity inspections	Risks -Taxonomic expertise for some IAS groups may not be readily available -Market-driven changes to pathways and vectors cannot be fully anticipated -Establishment of new high-risk IAS within trade-partner countries cannot be fully anticipated -The invasiveness of many species is simply unknown, making it difficult to determine exactly which species training should focus on Assumptions -Adequate regulations to support improved inspection services -Community support
Outcome 3 Long-term measures for protection of terrestrial ecosystems and their biodiversity on Taveuni, Qamea, Laucala and Matagi	3.1: Status of GIIs seen/captured on Taveuni	No search efforts for GII on Taveuni	Initial surveys completed in all potential GII sites on Taveuni If surveys indicate GII are present, search and eradication efforts indicate a decline in sighting/capture of GII	No GIIs seen/captured on Taveuni during last year of project	Risks - Inter-agency cooperation may be stifled by territorial rivalries -Global expertise to formulate an effective plan is limited Assumption - Interest and commitment of all relevant organizations
	3.2: GII numbers on Qamea, Matagi and Laucala, as indicated by rates of removal	Baseline GII population size to be established in Year 1 based on eradication removal rates	Capture operations vigorously and systematically conducted to reach 100% coverage of the islands Rates of removal indicate a decline in GII numbers on Qamea, Matagi and Laucala	Reduction in GII numbers on Qamea, Matagi and Laucala by 50% or more	Risks -Not all animals can be put at risk of being killed -Animals are difficult to detect -Lethal methods are limited and require further development -Agency and staff interest may wane with time -Lack of understanding of the need for long-term commitment to ensure success in eradication Assumptions -Resources and commitment will be available beyond the duration of the project
	3.3: Status and trends in native banded iguana populations (*Brachylophus bulabula*) in areas occupied by GII	Baseline to be established in Year 1	Stable populations of native banded iguana (*Brachylophus bulabula*) in areas occupied by GII on island(s) and eradication efforts ongoing	Stable or improved populations of native banded iguana (*Brachylophus bulabula*) in areas previously (prior to eradication) occupied by GII on island(s)	

	3.4: Community perceptions of damage to food crops and livelihoods in areas occupied by GII, disaggregated by gender	Impacts not yet visible or reported Limited awareness of potential impact of GII No standardized assessment or understanding of community perceptions and awareness of damage or impacts from GII Standardized baseline will be established in Year 1	Baselines established of community perceptions and awareness of GII impacts and monitoring protocols for evaluating changes in community perceptions designed and being monitored At least 30% of sampled local population (40% of which are women), aware of potential adverse impacts of GII and need for biosecurity	No/reduced community perceptions of damage to food crops and livelihoods in areas occupied by GII (prior to eradication) At least 50% of sampled local population (40% of which are women), aware of potential adverse impacts of GII and need for biosecurity	-Improved detection and removal methods can be developed -The GIIs have not already spread too far to eradicate -Adequate capacity for monitoring native biodiversity exists -That damage from GII on food crops and livelihoods likely not occurred and use of perception study to validate it appropriate
Outcome 4 Increased awareness of risks posed by IAS and need for biosecurity of local communities, travelling public, tour operators and shipping agents	4.1: Level of awareness of IAS and biosecurity among tour operators, resort owners, importers, tourists and shipping agents	Coordinated outreach on biosecurity lacking Limited awareness of impact of IAS among public Baseline survey established in Year 1	At least 20% of sampled tour operators, resort owners, importers, tourists and shipping agents aware of potential adverse impacts of IAS and need for biosecurity	At least 50% of sampled tour operators, resort owners, importers, tourists and shipping agents aware of potential adverse impacts of IAS and need for biosecurity	Risks -Actions among the assorted agencies and NGOs remain uncoordinated Assumptions -Community diversity will not be a hindrance to outreach activities
	4.2: Operational status of on-line clearinghouse for IAS information to collate and make accessible IAS information to stakeholders	Partial existence of on-line clearinghouse for IAS information at Department of Environment	Enhancement of on-line clearinghouse fully scoped and improvements in progress	On-line clearinghouse completed and actively used by relevant agencies	Risks -Lack of resources, information and personnel to move project forward -Difficult to obtain IAS information Assumptions -Required information is readily available -Partnerships can be established that facilitate the sharing of existing information

VII.   MONITORING AND EVALUATION (M&E) PLAN

The project results as outlined in the project results framework will be monitored annually and evaluated periodically during project implementation to ensure the project effectively achieves these results.

Project-level monitoring and evaluation will be undertaken in compliance with UNDP requirements as outlined in the UNDP POPP and UNDP Evaluation Policy. While these UNDP requirements are not outlined in this project document, the UNDP Country Office will work with the relevant project stakeholders to ensure UNDP M&E requirements are met in a timely fashion and to high quality standards. Additional mandatory GEF-specific M&E requirements (as outlined below) will be undertaken in accordance with the GEF M&E policy and other relevant GEF policies.

In addition to these mandatory UNDP and GEF M&E requirements, other M&E activities deemed necessary to support project-level adaptive management will be agreed during the Project Inception Workshop and will be detailed in the Inception Report. This will include the exact role of project target groups and other stakeholders in project M&E activities including the GEF Operational Focal Point and national/regional institutes assigned to undertake project monitoring. The GEF Operational Focal Point will strive to ensure consistency in the approach taken to the GEF-specific M&E requirements (notably the GEF Tracking Tools) across all GEF-financed projects in the country. This could be achieved for example by using one national institute to complete the GEF Tracking Tools for all GEF-financed projects in the country, including projects supported by other GEF Agencies.

M&E Oversight and monitoring responsibilities:

Project Coordinator: The Project Coordinator is responsible for day-to-day project management and regular monitoring of project results and risks, including social and environmental risks. The Project Coordinator will ensure that all project staff maintain a high level of transparency, responsibility and accountability in M&E and reporting of project results. The Project Coordinator will inform the Project Board, the UNDP Country Office and the UNDP-GEF RTA of any delays or difficulties as they arise during implementation so that appropriate support and corrective measures can be adopted.

The Project Coordinator will develop annual work plans based on the multi-year work plan included in Annex 10, including annual output targets to support the efficient implementation of the project. The Project Coordinator will ensure that the standard UNDP and GEF M&E requirements are fulfilled to the highest quality. This includes, but is not limited to, ensuring the results framework indicators are monitored annually in time for evidence-based reporting in the GEF PIR, and that the monitoring of risks and the various plans/strategies developed to support project implementation (e.g. gender strategy, KM strategy etc.) occur on a regular basis.

Project Board: The Project Board will take corrective action as needed to ensure the project achieves the desired results. The Project Board will hold project reviews to assess the performance of the project and appraise the Annual Work Plan for the following year. In the project's final year, the Project Board will hold an end-of-project review to capture lessons learned and discuss opportunities for scaling up and to highlight project results and lessons learned with relevant audiences. This final review meeting will also discuss the findings outlined in the project terminal evaluation report and the management response.

Project Implementing Partner: The Implementing Partner is responsible for providing any and all required information and data necessary for timely, comprehensive and evidence-based project reporting, including results and financial data, as necessary and appropriate. The Implementing Partner will strive to ensure project-level M&E is undertaken by national institutes, and is aligned with national systems so that the data used by and generated by the project supports national systems.

UNDP Country Office: The UNDP Country Office will support the Project Coordinator as needed, including through annual supervision missions. The annual supervision missions will take place according to the schedule outlined in the annual work plan. Supervision mission reports will be circulated to the project team and Project Board within one month of the mission. The UNDP Country Office will initiate and organize key GEF M&E activities including the annual GEF PIR, the independent mid-term review and the independent terminal evaluation. The UNDP Country Office will also ensure that the standard UNDP and GEF M&E requirements are fulfilled to the highest quality.

The UNDP Country Office is responsible for complying with all UNDP project-level M&E requirements as outlined in the [UNDP POPP.](#) This includes ensuring the UNDP Quality Assurance Assessment during implementation is undertaken annually; that annual targets at the output level are developed, and monitored and reported using UNDP corporate systems; the regular updating of the ATLAS risk log; and, the updating of the UNDP gender marker on an annual basis based on gender mainstreaming progress reported in the GEF PIR and the UNDP ROAR. Any quality concerns flagged during these M&E activities (e.g. annual GEF PIR quality assessment ratings) must be addressed by the UNDP Country Office and the Project Coordinator. The UNDP Country Office will retain all M&E records for this project for up to seven years after project financial closure in order to support ex-post evaluations undertaken by the UNDP Independent Evaluation Office (IEO) and/or the GEF Independent Evaluation Office (IEO).

UNDP-GEF Unit: Additional M&E and implementation quality assurance and troubleshooting support will be provided by the UNDP-GEF Regional Technical Advisor and the UNDP-GEF Directorate as needed.

Audit: The project will be audited according to UNDP Financial Regulations and Rules and applicable audit policies on NIM implemented projects.[5]

Additional GEF monitoring and reporting requirements:
Inception Workshop and Report: A project inception workshop will be held within three months after the project document has been signed by all relevant parties to, among others:
a) Re-orient project stakeholders to the project strategy and discuss any changes in the overall context that influence project implementation;
b) Discuss the roles and responsibilities of the project team, including reporting and communication lines and conflict resolution mechanisms;
c) Review the results framework and finalize the indicators, means of verification and monitoring plan;
d) Discuss reporting, monitoring and evaluation roles and responsibilities and finalize the M&E budget; identify national/regional institutes to be involved in project-level M&E; discuss the role of the GEF OFP in M&E;
e) Update and review responsibilities for monitoring the various project plans and strategies, including the risk log; Environmental and Social Management Plan and other safeguard requirements; the gender strategy; the knowledge management strategy, and other relevant strategies;

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[5] See guidance here: https://info.undp.org/global/popp/frm/pages/financial-management-and-execution-modalities.aspx

f) Review financial reporting procedures and mandatory requirements, and agree on the arrangements for the annual audit; and

g) Plan and schedule Project Board meetings and finalize the first year annual work plan.

The Project Coordinator will prepare the inception report no later than one month after the inception workshop. The inception report will be cleared by the UNDP Country Office and the UNDP-GEF Regional Technical Adviser, and will be approved by the Project Board.

GEF Project Implementation Report (PIR): The Project Coordinator, the UNDP Country Office, and the UNDP-GEF Regional Technical Advisor will provide objective input to the annual GEF PIR covering the reporting period July (previous year) to June (current year) for each year of project implementation. The Project Coordinator will ensure that the indicators included in the project results framework is reported annually in advance of the PIR submission deadline so that progress can be reported in the PIR. Any environmental and social grievances, critical and related management plans will be monitored regularly, and progress will be reported in the PIR. The PIR submitted to the GEF will be shared with the Project Board. The UNDP Country Office will coordinate the input of the GEF Operational Focal Point and other stakeholders to the PIR as appropriate. The quality rating of the previous year's PIR will be used to inform the preparation of the subsequent PIR.

Lessons learned and knowledge generation: Results from the project will be disseminated within and beyond the project intervention area through existing information sharing networks and forums. The project will identify and participate, as relevant and appropriate, in scientific, policy-based and/or any other networks, which may be of benefit to the project. The project will identify, analyse and share lessons learned that might be beneficial to the design and implementation of similar projects and disseminate these lessons widely. There will be continuous information exchange between this project and other projects of similar focus in the same country, region and globally.

GEF Focal Area Tracking Tools: The following GEF Tracking Tool(s) will be used to monitor global environmental benefit results: GEF IAS Tracking Tool. The baseline/CEO Endorsement GEF BD IAS Tracking Tool(s) – submitted with this project document – will be updated by the Project Coordinator/PIU Team and shared with the mid-term review consultants and terminal evaluation consultants before the required review/evaluation missions take place. The updated GEF Tracking Tool will be submitted to the GEF along with the completed Mid-term Review report and Terminal Evaluation report.

Independent Mid-term Review (MTR): An independent mid-term review process will begin after the second PIR has been submitted to the GEF, and the MTR report will be submitted to the GEF in the same year as the 3rd PIR. The MTR findings and responses outlined in the management response will be incorporated as recommendations for enhanced implementation during the final half of the project's duration. The terms of reference, the review process and the MTR report will follow the standard templates and guidance prepared by the UNDP IEO for GEF-financed projects available on the UNDP Evaluation Resource Center (ERC). As noted in this guidance, the evaluation will be 'independent, impartial and rigorous'. The consultants that will be hired to undertake the assignment will be independent from organizations that were involved in designing, executing or advising on the project to be evaluated. The GEF Operational Focal Point and other stakeholders will be involved and consulted during the terminal evaluation process. Additional quality assurance support is available from the UNDP-GEF Directorate. The final MTR report will be available in English and will be cleared by the UNDP Country Office and the UNDP-GEF Regional Technical Adviser, and approved by the Project Board.

Terminal Evaluation (TE): An independent terminal evaluation (TE) will take place upon completion of all major project outputs and activities. The terminal evaluation process will begin three months before operational closure of the project allowing the evaluation mission to proceed while the project team is still in place, yet ensuring the project is close enough to completion for the evaluation team to reach conclusions on key aspects such as project sustainability. The Project Coordinator will remain on contract until the TE report and management response have been finalized. The terms of reference, the evaluation process and the final TE report will follow the standard templates and guidance prepared by the UNDP IEO for GEF-financed projects available on the UNDP Evaluation Resource Center. As noted in this guidance, the evaluation will be 'independent, impartial and rigorous'. The consultants that will be hired to undertake the assignment will be independent from organizations that were involved in designing, executing or advising on the project to be evaluated. The GEF Operational Focal Point and other stakeholders will be involved and consulted during the terminal evaluation process. Additional quality assurance support is available from the UNDP-GEF Directorate. The final TE report will be cleared by the UNDP Country Office and the UNDP-GEF Regional Technical Adviser, and will be approved by the Project Board. The TE report will be publically available in English on the UNDP ERC.

The UNDP Country Office will include the planned project terminal evaluation in the UNDP Country Office evaluation plan, and will upload the final terminal evaluation report in English and the corresponding management response to the UNDP Evaluation Resource Centre (ERC). Once uploaded to the ERC, the UNDP IEO will undertake a quality assessment and validate the findings and ratings in the TE report, and rate the quality of the TE report. The UNDP IEO assessment report will be sent to the GEF IEO along with the project terminal evaluation report.

Final Report: The project's terminal PIR along with the terminal evaluation (TE) report and corresponding management response will serve as the final project report package. The final project report package shall be discussed with the Project Board during an end-of-project review meeting to discuss lesson learned and opportunities for scaling up.

Table 4: Mandatory GEF M&E Requirements and M&E Budget:

GEF M&E requirements	Primary responsibility	Indicative costs to be charged to the Project Budget[6] (US$)		Time frame
		GEF grant	**Co-financing**	
Inception Workshop	UNDP Country Office	5,000	5,000	Within three months of project document signature
Inception Report	Project Coordinator	3,000		Within two weeks of inception workshop
Standard UNDP monitoring and reporting requirements as outlined in the UNDP POPP	UNDP Country Office	None	5,000	Quarterly, annually
Monitoring of indicators in project results framework (refer Annexes 9 and 10)	Project Coordinator and Chief Technical	25,000 (Outputs 3.4, 3.5)	10,000	Inception, mid-term and end of project

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[6] Excluding project team staff time and UNDP staff time and travel expenses.
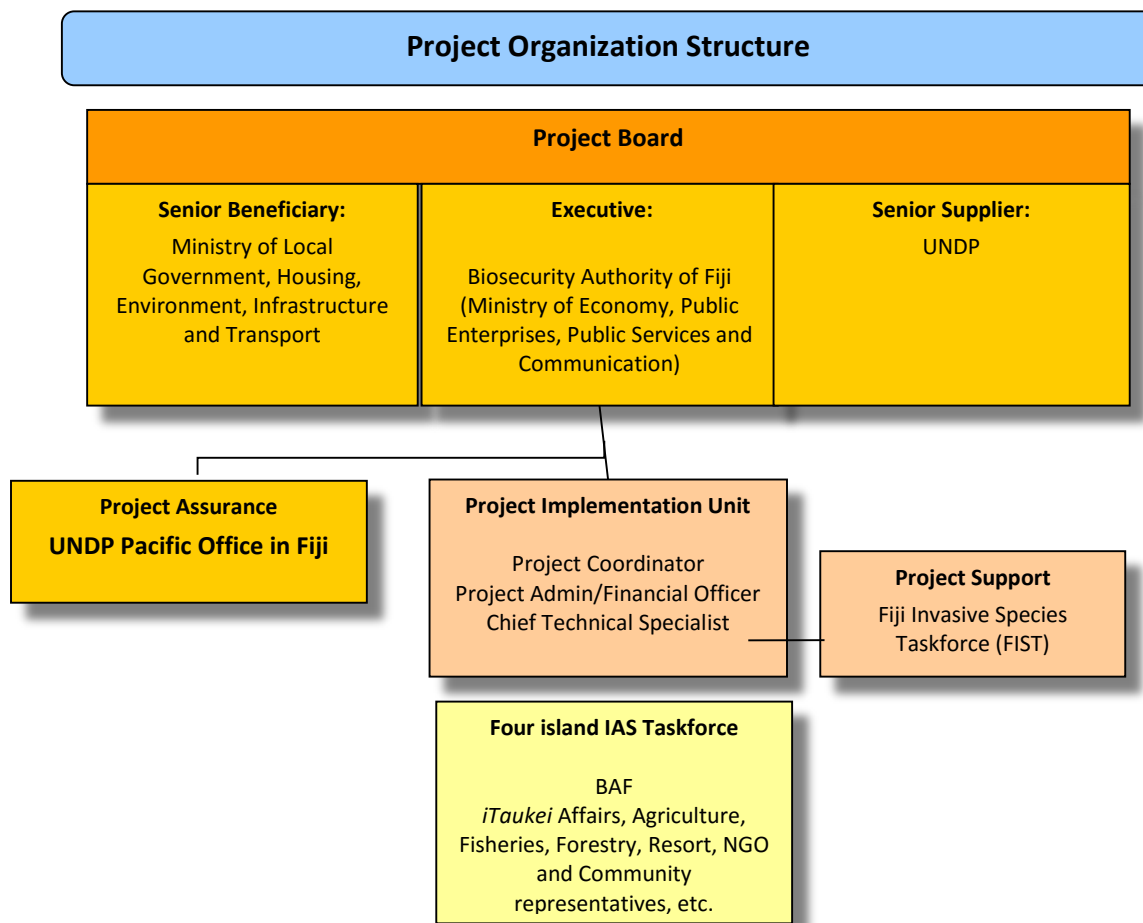
	Specialist, Specialist Contractors			
GEF Project Implementation Report (PIR)	Project Coordinator and UNDP Country Office and UNDP-GEF RTA	None	5,000	Annually
NIM Audit as per UNDP audit policies	UNDP Country Office	15,000		Annually or other frequency as per UNDP Audit policies
Lessons learned and knowledge generation	Project Coordinator	3,000		Annually
Monitoring of environmental and social risks, and corresponding management plans as relevant	Project Coordinator UNDP Country Office	None		Ongoing
Addressing environmental and social grievances	Project Coordinator UNDP Country Office BPPS as needed	None	5,000	
Project Board meetings	Project Board UNDP Country Office Project Coordinator	2,500	10,000	At minimum annually
Supervision missions	UNDP Country Office	None[7]		Annually
Oversight missions	UNDP-GEF team	None[7]		Troubleshooting as needed
Knowledge management as outlined in Outcome 4	Project Coordinator	50,000	50,000	Ongoing
GEF Secretariat learning missions/site visits	UNDP Country Office and Project Coordinator and UNDP-GEF team	None		To be determined.
Mid-term GEF IAS Tracking Tool to be updated by PIU (refer Annex 13 for baseline TT)	Project Coordinator and Chief Technical Specialist	None		Before mid-term review mission takes place.
Independent Mid-term Review (MTR) and management response	UNDP Country Office and Project team and UNDP-GEF team	30,000		Between 2nd and 3rd PIR.
Terminal GEF IAS Tracking Tool to be updated by PIU	Project Coordinator and Chief Technical Specialist	None		Before terminal evaluation mission takes place
Independent Terminal Evaluation (TE) included in UNDP evaluation plan, and management response	UNDP Country Office and Project team and UNDP-GEF team	35,000		At least three months before operational closure
TOTAL indicative COST		USD 168,500	USD 90,000	

VIII.   GOVERNANCE AND MANAGEMENT ARRANGEMENTS

Roles and responsibilities of the project's governance mechanism: The project will be implemented following UNDP's national implementation modality, according to the Standard Basic Assistance Agreement between UNDP and the Government of Fiji, and the Country Program.

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[7] The costs of UNDP Country Office and UNDP-GEF Unit's participation and time are charged to the GEF Agency Fee.

The **Implementing Partner** for this project is the Biosecurity Authority of Fiji (BAF). The Implementing Partner is responsible and accountable for managing this project, including the monitoring and evaluation of project interventions, achieving project outcomes, and for the effective use of UNDP resources.

Project Organization Structure

Project Board

Senior Beneficiary:	Executive:	Senior Supplier:
Ministry of Local Government, Housing, Environment, Infrastructure and Transport	Biosecurity Authority of Fiji (Ministry of Economy, Public Enterprises, Public Services and Communication)	UNDP

Project Assurance

UNDP Pacific Office in Fiji

Project Implementation Unit

Project Coordinator
Project Admin/Financial Officer
Chief Technical Specialist

Project Support

Fiji Invasive Species Taskforce (FIST)

Four island IAS Taskforce

BAF
iTaukei Affairs, Agriculture, Fisheries, Forestry, Resort, NGO and Community representatives, etc.

Project Board

A Project Board will be established under BAF and Chaired by the Chief Executive Officer pursuant to the *Biosecurity Act 2008* and will include representatives of UNDP and Ministry of Local Government, Housing and Environment. It would serve as the national governing body for the project. The Board will meet twice in a year and provide strategic direction for implementation of the project, approve annual work-plans and provide a coordination forum between key stakeholders. The committee will be responsible for making, by consensus, management decisions when guidance is required by the Project Coordinator, including recommendation for Implementing Partner and UNDP approval of project plans and revisions. The PIU will serve as secretary of the Project Board. Other organizations may be added as necessary and agreed by the Project Board. Other participants can be invited into the Board meetings at the decision of the Board, as and when required to enhance its efficacy. In order to ensure UNDP's ultimate accountability, decisions should be made in accordance with standards that shall ensure management for development results, best value money, fairness, integrity, transparency and effective international competition.

Specific responsibilities of the Project Board would include the following:

- Provide strategic direction and guidance for implementation of the project
- Review project's progress, review and evaluation reports and make and ensure for follow-up actions for timely and quality implementation
- Approve annual work-plans and budgets and any essential deviations (above 5% of budget reduction from one of the four components) from the original plans and budgets
- Provide coordination and conflict resolution forum for key stakeholders, e.g. concerned ministries, provincial line departments, and relevant research institutions
- Oversee and support the commitment and funding and other support for the project
- Oversee prudent and efficient use of project budgets and other resources
- Decide on conceptual and design changes and other recommendations of mid-term review
- Provide guidance on post-project sustainability, institutional and financial arrangements, keeping in view the recommendations of external reviews.

The **project assurance** role will be the responsibility of the UNDP Country Office. The UNDP Regional Technical Advisor will provide additional quality assurance, as and when needed.

Agreement on intellectual property rights and use of logo on the project's deliverables and disclosure of information**:** In order to accord proper acknowledgement to the GEF for providing grant funding, the GEF logo will appear together with the UNDP logo on all promotional materials, other written materials like publications developed by the project, and project hardware. Any citation on publications regarding projects funded by the GEF will also accord proper acknowledgement to the GEF. Information will be disclosed in accordance with relevant policies notably the UNDP Disclosure Policy[8] and the GEF policy on public involvement[9].

PROJECT MANAGEMENT

Project Implementation Unit

The Project Implementation Unit (PIU) will be established in BAF. It will be comprised of a Project Coordinator (PC), Project Administrative/Finance Officer (PAO), and Chief Technical Specialist (CTS). The PIU, in collaboration with the BAF will have overall management and administrative responsibility for facilitating stakeholder involvement and ensuring increased district and local level ownership of the project. The PIU staff will be located in BAF Office in Suva.

Technical Advisory Committee

The Fiji Invasive Species Taskforce (FIST) constituted by the National Environment Council (NEC) under the National Environment Management Act of 2005, and convened under the chairmanship of BAF will be reconstituted to advise and facilitate the coordination of the project. FIST is comprised of representatives

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[8] See http://www.undp.org/content/undp/en/home/operations/transparency/information_disclosurepolicy/

[9] See https://www.thegef.org/gef/policies_guidelines

of BAF, Environment, Fisheries, Forests, Agriculture, FRCA, *iTaukei* Affairs, *iTaukei* Land Trust Board, NGOs and academic institutions. The key function of FIST will be to provide advice on IAS-related activities in the country, including that of the project. FIST would provide guidance and ensure consistency, synergy and convergence of approaches with the other ongoing development projects and processes in the state, and support annual work-plan development and implementation.

Four Island IAS Taskforce (FIIT)

This group will oversee and support BAF in the implementation of Outcome 2 (*Improved IAS prevention and surveillance operations at the island level on Taveuni, Qamea, Matagi and Laucala)* and Outcome 3 (*Eradication of Giant Invasive Iguana from Taveuni, Qamea, Matagi and Laucala)* of the project. In particular, this working group will help coordinate efforts across the different agencies in the four islands for facilitating biosecurity monitoring and surveillance, facilitate outreach activities, coordinate local and cross-training activities, support preparation of eradication work plans, facilitate coordination with resort owners and tour operators, support efforts for coordination of resource mobilization and manpower for the eradication and biosecurity activities and ensure local input for all stages of planning and implementation for Outcome 2 and 3. The Task Force will be convened by BAF and include representatives from local communities, divisional (or sub-divisional) of relevant government agencies such as *iTaukei* Affairs, Agriculture, Education, Environment, Fisheries and Forestry, Health, Customs, Police, port authorities, Maritime Safety and may include representatives from other key civil society entities such as resort, tour operators, etc.

Detailed Terms of Reference for Key Project Staff are provided in Annex 9.

IX.   FINANCIAL PLANNING AND MANAGEMENT

The total cost of the project is USD 30,367,482. This is financed through a GEF grant of USD 3,502,968, USD 101,096 in kind co-financing from UNDP and USD 26,763,418 in parallel co-financing from Government of Fiji. UNDP, as the GEF Agency, is responsible for the execution of the GEF resources and the cash co-financing transferred to UNDP bank account only.

Parallel co-financing: The actual realization of project co-financing will be monitored during the mid-term review and terminal evaluation process and will be reported to the GEF. The planned parallel co-financing will be used as follows:

Co-financing source	Co-financing type	Co-financing amount	Planned Activities/Outputs	Risks	Risk Mitigation Measures
GEF	Grant	$3,502,968	Components 1, 2, 3 and 4	N/A	N/A
UNDP	In-kind	$101,096	Technical advice for Components 1, 2, 3 and 4	More pressing challenges emerge for UNDP support on other development issues	N/A
Government of Fiji	Grant	$26,763,418	Components 1, 2, 3 and 4, including staff, operating costs, biosecurity infrastructure	Co-financing might not be fully tracked due to lack of reporting systems	PIU will keep records of BAF and Partner co-financing activities and budgets. UNDP

			and equipment and project management		will follow up annually on verification.

Budget Revision and Tolerance: As per UNDP requirements outlined in the UNDP POPP, the project board will agree on a budget tolerance level for each plan under the overall annual work plan allowing the Project Coordinator to expend up to the tolerance level beyond the approved project budget amount for the year without requiring a revision from the Project Board. Should the following deviations occur, the Project Coordinator and UNDP Country Office will seek the approval of the UNDP-GEF team as these are considered major amendments by the GEF:

a) Budget re-allocations among components in the project with amounts involving 10% of the total project grant or more;

b) Introduction of new budget items/or components that exceed 5% of original GEF allocation.

Any over expenditure incurred beyond the available GEF grant amount will be absorbed by non-GEF resources (e.g. UNDP TRAC or cash co-financing).

Refund to Donor: Should a refund of unspent funds to the GEF be necessary, this will be managed directly by the UNDP-GEF Unit in New York.

Project Closure: Project closure will be conducted as per UNDP requirements outlined in the UNDP POPP. On an exceptional basis only, a no-cost extension beyond the initial duration of the project will be sought from in-country UNDP colleagues and then the UNDP-GEF Executive Coordinator.

Operational completion: The project will be operationally completed when the last UNDP-financed inputs have been provided and the related activities have been completed. This includes the final clearance of the Terminal Evaluation Report (that will be available in English) and the corresponding management response, and the end-of-project review Project Board meeting. The Implementing Partner through a Project Board decision will notify the UNDP Country Office when operational closure has been completed. At this time, the relevant parties will have already agreed and confirmed in writing on the arrangements for the disposal of any equipment that is still the property of UNDP.

Financial completion: The project will be financially closed when the following conditions have been met:
a) The project is operationally completed or has been cancelled;
b) The Implementing Partner has reported all financial transactions to UNDP;
c) UNDP has closed the accounts for the project;
d) UNDP and the Implementing Partner have certified a final Combined Delivery Report (which serves as final budget revision).

The project will be financially completed within 12 months of operational closure or after the date of cancellation. Between operational and financial closure, the implementing partner will identify and settle all financial obligations and prepare a final expenditure report. The UNDP Country Office will send the final signed closure documents including confirmation of final cumulative expenditure and unspent

balance to the UNDP-GEF Unit for confirmation before the UNDP Country Office will financially close the project in Atlas.

X.   TOTAL BUDGET AND WORK PLAN

Total Budget and Work Plan				
Atlas Proposal or Award ID:	00084576	UNDP-GEF PIMS ID:		5589
Atlas Proposal or Award Title:	00092525			
Atlas Business Unit:	FJI 10			
Atlas Primary Output Project Title:	IAS Fiji			
Project Title:	Building Capacities to Address Invasive Alien Species to Enhance the Chances of Long-term Survival of Terrestrial Endemic and Threatened Species on Taveuni Island and Surrounding Islets			
UNDP-GEF PIMS No.	5589			
Implementing Partner	Biosecurity Authority of Fiji (Ministry of Economy, Public Enterprises, Public Services and Communication)			

Implementing Partner	Ministry of Economy, Public Enterprises Public Services and Communication	Fund ID	Donor Name	Atlas Budgetary Account Code	ATLAS Budget Description	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	Total (USD)	See Budget Note:
Component 1: Strengthened IAS policy, institutions and coordination at the national level to reduce the risk of IAS entering Fiji	BAF	62000	GEF	71200	International Consultants	27,000	90,000	90,000	54,000	27,000	288,000	1
		62000	GEF	71300	Local Consultants	3,750	7,500	7,500	7,500	3,750	30,000	2
		62000	GEF	71600	Travel	33,000	35,000	26,000	26,000	12,000	132,000	3
		62000	GEF	72200	Equipment and Furniture	10,000	0	0	0	0	10,000	4
		62000	GEF	72100	Contractual services-Companies	65,000	55,000	35,000	25,000	0	180,000	5
		62000	GEF	72500	Supplies	8,000	8,000	8,000	8,000	8,000	40,000	6
		62000	GEF	75700	Training, workshops and confer	100,000	65,000	65,000	65,000	25,000	320,000	7
		62000	GEF	74500	Miscellaneous expenses	2,000	2,000	2,000	2,000	2,000	10,000	8
					Total Outcome 1	**248,750**	**262,500**	**233,500**	**187,500**	**77,750**	**1,010,000**	
Component 2: Improved IAS prevention and surveillance operations on Taveuni,	BAF	62000	GEF	71200	International Consultants	27,000	54,000	54,000	54,000	27,000	216,000	9
		62000	GEF	71300	Local Consultants	11,250	5,000	2,500	7,500	3,750	30,000	10
		62000	GEF	72100	Contractual services-Companies	0	26,000	13,000	0	0	39,000	11
		62000	GEF	71600	Travel	10,000	10,000	15,000	10,000	5,000	50,000	12

Implementing Partner	Ministry of Economy, Public Enterprises Public Services and Communication	Fund ID	Donor Name	Atlas Budgetary Account Code	ATLAS Budget Description	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	Total (USD)	See Budget Note:
Qamea, Laucala and Matagi.		62000	GEF	72200	Equipment and furniture	65,000	105,000	25,000	15,000	0	210,000	13
		62000	GEF	75700	Training, workshops and confer	20,000	20,000	20,000	20,000	16,000	96,000	14
		62000	GEF	72500	Supplies	8,000	8,000	8,000	8,000	8,000	40,000	15
		62000	GEF	73400	Rental & Maint of Other Equip	8,000	8,000	8,000	8,000	8,000	40,000	16
					Total Outcome 2	**149,250**	**236,000**	**145,500**	**122,500**	**67,750**	**721,000**	
Component 3: Eradication of invasive iguana or GII (*Iguana iguana*) in Taveuni Island and surrounding islets	BAF	62000	GEF	71200	International Consultants	48,000	36,000	24,000	12,000	12,000	132,000	17
		62000	GEF	71300	Local consultant	39,000	48,000	48,000	43,000	39,000	217,000	18
		62000	GEF	71600	Travel	30,000	30,000	20,000	10,000	10,000	100,000	19
		62000	GEF	72100	Contractual Services-companies	88,000	104,000	68,000	44,000	10,000	314,000	20
		62000	GEF	72200	Equipment and furniture	80,000	45,000	10,000	10,000	0	145,000	21
		62000	GEF	73100	Rental & Maintenance - Premises	30,000	40,000	40,000	40,000	30,000	180,000	22
		62000	GEF	75700	Training, workshops and confer	40,000	33,000	9,000	9,000	4,000	95,000	23
		62000	GEF	72500	Supplies	4,000	4,000	4,000	4,000	4,000	20,000	24
					Total Outcome 3	**359,000**	**340,000**	**223,000**	**172,000**	**109,000**	**1,203,000**	
Component 4: Knowledge management and awareness raising to address IAS	BAF	62000	GEF	71300	Local Consultants	0	20,000	0	0	0	20,000	25
		62000	GEF	72100	Contractual services-companies	10,000	90,000	61,000	0	2,000	163,000	26
		62000	GEF	71600	Travel	5,000	35,000	14,500	0	0	54,500	27
		62000	GEF	72200	Equipment and furniture	5,000	25,000	25,000	0	0	55,000	28
		62000	GEF	73400	Rental & Maint of Other Equip	4,000	4,000	4,000	4,000	4,000	20,000	29
					Component 4: Managed by UNDP							

Implementing Partner	Ministry of Economy, Public Enterprises Public Services and Communication	Fund ID	Donor Name	Atlas Budgetary Account Code	ATLAS Budget Description	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	Total (USD)	See Budget Note:
		62000	GEF	71200	International Consultants (MTR)	0	30,000	0	0	0	30,000	30
		62000	GEF	71200	International Consultants (TE)	0	0	0	0	35,000	35,000	31
		62000	GEF	75700	Training, workshops and confer	8,500	500	500	500	500	10,500	32
		62000	GEF	74100	Professional Services	3,000	3,000	3,000	3,000	3,000	15,000	33
					Total Outcome 4	**35,500**	**207,500**	**108,000**	**7,500**	**44,500**	**403,000**	
Project Management Cost	BAF	62000	GEF	71300	Local Consultants	15,000	30,000	30,000	30,000	15,000	120,000	34
		62000	GEF	71600	Travel	4,000	4,000	4,000	4,000	4,000	20,000	35
		62000	GEF	72500	Supplies	4,000	4,000	4,000	4,000	4,000	20,000	36
		62000	GEF	74500	Miscellaneous expenses (DPC)	1,200	1,300	1,300	1,168	1,000	5,968	37
					Total PMC	**24,200**	**39,300**	**39,300**	**39,168**	**24,000**	**$165,968**	
					PROJECT TOTAL	**$816,700**	**$1,085,300**	**$749,300**	**$528,668**	**323,000**	**$3,502,968**	

Budget Summary:

Donor	Amount Year 1 (USD)	Amount Year 2 (USD)	Amount Year 3 (USD)	Amount Year 4 (USD)	Amount Year 5 (USD)	Total (USD)
Grant – GEF	816,700	1,085,300	749,300	528,668	323,000	3,502,968
Co-finance – UNDP	10,096	25,000	25,000	25,000	16,000	101,096
Co-finance – Government	7,800,418	6,387,000	5,051,000	5,525,000	2,000,000	26,763,418
TOTAL	**8,627,214**	**7,497,300**	**5,825,300**	**6,078,668**	**2,339,000**	**30,367,482**

Budget notes:

1	Costs of procuring specialist international services for Outcome 1: (i) Chief Technical Specialist (long-term) to provide technical support and coordination on IAS management issues, especially on pathway analysis of IAS, NISFSAP, risk assessment, prevention and quarantine. The expert will have knowledge and experience across the range of IAS management strategies, particularly prevention/restriction; inspection and quarantine and provide guidance and strategy on IAS assessment, management and prevention to the project team, the lead agency (BAF) and an extensive array of other stakeholders at national, regional, island and community levels (Outputs 1.2, 1.3 and 1.5). The Expert will work alongside the Project Coordinator and ensure that the project and project tasks are on and remain on task throughout the duration of the project period. 48 months at USD 9,000/month = USD 432,000 (cost shared with Outcome 2) = USD 432,000/2 = USD 216,000. (ii) Legal Specialist for drafting of invasive species legislation following NISFSAP (Output 1.2). Eight months short-term (4 months each in Year 2 and 3) = USD 9,000 x 8 = USD 72,000.
2	Cost of appointing: (i) A National Project Coordinator (Technical Support) for 48 months for PIU who will be tasked with management and oversight and technical coordination of project activities across the components (Outcome 1), USD 2,500/month x 48 = USD 120,000 (cost-shared with Outcome 2 and Project Management) = 25% of USD 120,000 = USD 30,000.
3	International and domestic travel costs (airfare, car hire, daily allowance, accommodation) for CTS and four specialist international consultants listed above = USD 72,000. Travel and related costs associated with Outcome 1 for BAF and partner staff and PIU (Outcome 1) = USD 60,000.
4	Computer, software and accessories for BAF database development (Output 1.2) = USD 10,000.
5	Contractual services for technical support, publications, communication and publicity events related to following: (i) Data Base Specialist (International) to conduct a desktop exercise to compile detailed information regarding IAS currently within the country, IAS which threaten the country and biodiversity including endemics, threatened species and protected areas (Output 1.2). It is recommended that this compilation of IAS information for Fiji include the following: inventory of IAS by district, island group and/or island; inventory of endemic and threatened species by district, island group and/or island; inventory of designated nature areas and ecosystems; inventory of risk species already established in Fiji. Four months over a 3-year period at USD 10,000/month = USD 40,000. (ii) Training Specialist (International) to develop long-term biosecurity training strategy and plan (Output 1.3). Two months at USD 10,000/month = USD 20,000. (iii) Biosecurity Specialists (International) to conduct in-country specialized biosecurity-related training (Output 1.3). One month for Years 2, 3 and 4 at USD 10,000/month x 3 = USD 30,000. (iv) Economic Assessment Specialist (national) (conducted in conjunction with FNU, USP and BAF) in Year 1 for supporting economic assessment of impacts of IAS (Output 1.4). Eight months at USD 2,500/month = USD 20,000. (v) Printing and communications related to NISFSAP (Output 1.2) = USD 25,000. (vi) Outreach for the EDRR for public vigilance (Output 1.5) = USD 45,000.
6	Costs of purchase of offices supplies, stationery and related operating expenses for preparation of NISFSAP, EDRR, BAF database, and multi-sectoral coordinating committee, etc under Outcome 1 = USD 40,000.
7	Cost of stakeholder forums, decision-making meetings and training workshops related to (covering room costs, catering, per-diem, travel costs for participants, materials etc.): (i) Stakeholder forums for preparation of NISFSAP (Output 1.2). Four forums at USD 5,000 each = USD 20,000. (ii) Stakeholder forums for preparation of BAF's multi-year strategy (Output 1.3). Two forums at USD 5,000 each = USD 10,000. (iii) Stakeholder forums and training relating to preparation of EDRR plan (Output 1.5). Four forums at USD 5,000 = USD 20,000. (iv) Stakeholder forums for implementation of long-term biosecurity strategy and plan (Output 1.3). Two forums at USD 5,000 = USD 10,000. (v) In-country specialist training programs on various IAS and biosecurity related themes for national and field staff on key topics related to biosecurity under Outcome 1 such as: (a) surveillance and prevention strategies and tools; (b) legal and policy approaches to manage IAS; (c) cost-benefit assessment of IAS prevention and management; (d) IAS risk analysis; (e) identification of IAS; (f) taxonomy; (g) rapid response; (h) veterinary and others. About 4-5 (3-5 day) training sessions/year in Years 1-5. (USD 5,000-10,000 each) = USD 160,000. (vi) Participation in regional/international training workshops for BAF and other national partner agency staff on topics listed in 7(v) above (Output 1.3) at 5 persons/year in Years 1-4 at USD 5,000 each = USD 5,000 x 5 x 4 = USD 100,000. Training activities (v) and (vi) will be defined through the NISFSAP and Biosecurity training strategy and Plan. Chief Technical Specialist, Legal Specialist and Biosecurity Specialist will facilitate the training for in-country training activities.

8	Miscellaneous expenses including costs associated with compilation of NISFSAP sections, including possible local consultant reviews, discussion papers, meetings etc. and maintaining a dedicated phone line for reporting IAS as part of EDRR implementation (Outputs 1.2 and 1.5) = USD 10,000.
9	Costs of procuring specialist international services for Outcome 2: (i) Chief Technical Specialist (long-term) to provide technical support and coordination on IAS management issues, especially on pathway analysis of IAS, NISFSAP, risk assessment, prevention and quarantine. The expert will have knowledge and experience across the range of IAS management strategies, particularly prevention/restriction; inspection and quarantine and provide guidance and strategy on IAS assessment, management and prevention to the project team, the lead agency (BAF) and an extensive array of other stakeholders at national, regional, island and community levels. The Expert will work alongside the Project Coordinator and ensure that the project and project tasks are on and remain on task throughout the duration of the project period (Outputs 2.2 and 2.3). 48 months at USD 9,000/month = USD 432,000 (cost shared with Outcome 1) = USD 432,000/2 = USD 216,000.
10	Local consultant/contract costs as follows: (i) National Project Coordinator (Technical support) for 48 months for PIU who will be tasked with management and technical oversight and coordination of project activities across the activities in Output 2.1, 2.2 and 2.3. USD 2,500/month x 48 = USD 120,000 (cost shared with Outcome 1 and PM) = 25% of USD 120,000 = USD 30,000.
11	Contractual services for technical support as follows: (i) Database Specialist for development of collated database of four islands (Output 2.1). Three months spread over three years at USD 8,000/month = USD 8,000 x 3 = USD 24,000. (ii) Updating of data for four island database (Output 2.1). Six months at USD 2,500/month = USD 15,000.
12	International and domestic travel costs and per-diem for Chief Technical Specialist and international consultants (database specialist) for activities under Outcome 2 = USD 50,000.
13	Equipment and leasing costs for: (i) Equipment costs for database development for four islands (Output 2.1) = USD 10,000. (ii) Equipment for enhancing biosecurity inspection at four islands (e.g. veterinary and communication equipment, scopes, computers, mirrors on poles for boat hull inspections, and other high end surveillance equipment etc. (Output 2.2) = USD 140,000. (iii) Costs of (i) one vehicle (leasing costs of USD 40,000) and (ii) four boats (USD 20,000 leasing costs) for front line BAF and partner staff servicing Taveuni and islets to facilitate IAS prevention, control and management (Output 2.2) = USD 60,000.
14	Training and workshop costs (covering room costs, catering, per-diem, travel costs for participants, local resource personnel, materials etc.) for new and existing BAF and partner agency staff on the four islands to increase IAS prevention in topics such as surveillance and monitoring techniques and tools, operation of X-ray machines at domestic airports and goods and passenger landings, treatment of pests and pest products, including quarantine, taxonomic training on identification of pests, goods clearance procedures and reporting, etc. (Output 2.3). Two workshops in Year 1 and 5 and three in Years 2-4 (2-5 day workshops) at USD 6,000/each x 16 = USD 96,000.
15	Overhead costs for purchase of offices supplies, stationery and related operating expenses for four island operations (Outcome 2) = USD 40,000.
16	Maintenance and operating costs for vehicles and boats (Outcome 2) = USD 40,000.
17	Costs of procuring specialist international best practice eradication technical support for Outcome 3: (i) International Reptile Eradication Specialist to develop GII eradication plan and provide training and oversight (Outputs 3.2 and 3.3) for 11 months spread over the project at USD 12,000/month x 11 months = USD 132,000.
18	Costs of procuring local expertise to boost eradication efforts and identification of GII impacts: (i) Completion of community perception assessment of GII damage (Output 3.5; conducted in conjunction with FNU, USP and BAF) at USD 2,500/month x 4 months (2 months in each of Year 1 and 5 = USD 10,000. (ii) Design and completion (in conjunction with FNU, USP and BAF) of native iguana population surveys on islands to monitor potential impacts due to GII (Output 3.4) for 4 months in Year 1 and 2 months in Year 5 at USD 2,500/month = USD 15,000. (iii) Four national Field Project Coordinators for Taveuni and islets (Output 3.3) at USD 1,000/month x 48 months = USD 192,000.
19	International and domestic travel costs and per-diem for international consultants (Outputs 3.1, 3.2 and 3.3) = USD 100,000.
20	Contractual services for firm/individual for: (i) Two short-term field eradication specialists to provide cost-sharing of international best practices (e.g. New Zealand) in capture detection and capture techniques (Output 3.3) = 2 weeks each at USD 5,000 each x 2 = USD 10,000. (ii) Dog trainers to select and train native dogs and dog handlers in detection and capture of GII (Output 3.3) for 8 months spread over Years 1-4 = USD 12,000/month x 8 = USD 96,000.

	(iii) Hunting consultant to assess existing hunting techniques, train in international best practice hunting techniques and regularly evaluate and adjust eradication efforts (Output 3.3). Two months in Year 1 and one month each in Years 2, 3 and 4 = USD 12,000 x 5 months = USD 60,000. (iv) Development of multi-year outreach plans for Taveuni and islets (6 months in total for Year 1 and 2) (Output 3.1) = USD 8,000/month x 6 months = USD 48,000. (v) Provision of veterinary services for hunting dogs, veterinary consumables, operation of kennels etc. (Output 3.3) at USD 10,000 in Years 1,5 and USD 20,000 in Years 2-4 = USD 80,000. (ii) Design and preparation of materials for four island outreach program (Output 3.1) = USD 20,000.
21	Equipment costs for the following for eradication operations: (i) Camping equipment (tents, sleeping bags, cook stoves, etc.) for outreach (Output 3.1) and eradication program (Output 3.3) = USD 20,000. (ii) Field equipment (Outputs 3.3 and 3.4) (binoculars, spotting scopes, cameras, etc.) = USD 20,000. (iii) Survey and hunting related equipment (transmitters, receivers, rim-fire rifles/suppresses, GPS, etc.) (Output 3.3) = USD 80,000. (iv) Equipment for Taveuni and islet outreach (projectors, screens, generators, etc.) (Output 3.1) = USD 25,000.
22	(i) Rental and maintenance for office in Taveuni (Outcome 3) at USD 20,000/year. Starting YR1, QTR3 and ending YR5, QTR2 (subsequent costs beyond YR5, QTR 2 to be borne by GOF) = USD 80,000. (ii) Costs of rental of 4 boats for GII survey work (Output 3.3), 2 for GII survey work in Taveuni; and 2 for survey on Qamea, Matagi and Laucala = USD 4,000/year = USD 20,000 (iii) Vehicle and boat operation and maintenance costs for survey (Output 3.3) and outreach work (Output 3.1) in Taveuni and islets at USD 16,000/year = USD 80,000
23	Stakeholder forums, decision-making and specialist training sessions (covering room costs, catering, per-diem, travel costs, local resource personnel, materials etc.) as follows: (i) Stakeholder forums for development of GII eradication plan (detection, capture, dog training) (Output 3.3) at 4 workshops (2 days)/year in Year 1 and 2 at USD 2,500 each = USD 20,000. (ii) Local stakeholder forums associated with outreach for local communities, tour operators, land owners, industry to facilitate detection of GII, record keeping, prevention of IAS movement (Outputs 3.1 and 3.3) through 20 village level forums (e.g. 5 forums each in Years 1 and 2 and four forums in each of Years 3 and 4 and 2 forums in Year 5) at USD 2,000 each = USD 40,000. (iii) International/regional study tours to study successful reptilian eradication methods (Output 3.3) in Year 1 and 2 at USD 7,000/person for 5 staff members = USD 35,000.
24	Overhead costs for purchase of offices supplies, stationery and related operating expenses for outreach and eradication work (Outputs 3.1 and 3.3) on four islands = USD 20,000.
25	Local consultant/contract for populating national database and clearing house (Output 4.2) = 2,500 x 8 months = USD 20,000.
26	Contractual services to firm for the following activities:: (i) Development of national outreach and awareness plan (International) (Output 4.1) (8 months through Years 2 and 3) = USD 10,000 x 8 = USD 80,000. (ii) Development of on-line IAS clearinghouse (international) (Output 4.2) (1 month x USD 10,000) = USD 10,000. (iii) Development of national IAS database (international) (Output 4.2) (3 months in Year 2 x USD 10,000/month) = USD 30,000. (i) Design and reparation of materials for national outreach and awareness program (national) (Output 4.1) = USD 40,000. (ii) Printing and publication of best practices and project lessons learned (national) (Output 4.3) = USD 3,000.
27	International and domestic travel costs and per-diem for consultants for outreach, training and KM activities (Outputs 4.1, 4.2, 4.3) = USD 54,500
28	Equipment for the following: (i) Computer and software for national database (Output 4.2) = USD 5,000. (ii) Equipment for national outreach programs (computers, graphic equipment, screens, projectors, etc.) (Output 4.1) = USD 50,000.
29	Vehicle and maintenance and operating costs (Outcome 4) = USD 20,000.
30	Costs for Mid-Term Review (including international consultants and travel costs) = USD 30,000 (Managed by UNDP).
31	Costs for Terminal Evaluation of project (including international consultants and travel costs) = USD 35,000 (Managed by UNDP).
32	Costs for Inception workshop = USD 8,000. Costs for Project Board meetings = USD 2,500.
33	NIM Audit costs USD 3,000/year x 5 = USD 15,000 (managed by UNDP).
34	Contractual appointment of: (i) National Project Coordinator for 48 months for PIU who will be tasked with management and technical oversight and coordination of project activities across the components. USD 2,500/month x 48 = USD 120,000 (cost shared with Outcome 1 and 2) = 50% of USD 120,000 = USD 60,000. (ii) Administrative and financial Assistant for PIU (USD 1,250/month x 48 = USD 60,000).
35	Travel costs associated with PIU = USD 20,000.

36	Overhead costs for office supplies and office operation costs for PIU = USD 20,000.
37	Miscellaneous of USD 5,968 - DPC reserved for UNDP support services, e.g. IC recruitments for Midterm/Final evaluation and NIM audit. DPC will be discussed in detail prior to DOA issuance and LOA will be drafted and agreed.

XI. LEGAL CONTEXT

Any designations on maps or other references employed in this project document do not imply the expression of any opinion whatsoever on the part of UNDP concerning the legal status of any country, territory, city or area or its authorities, or concerning the delimitation of its frontiers or boundaries.

XII.   ANNEXES

1. Proposed Fiji National Invasive Species Framework and Strategic Action Plan (NISFSAP) elements

2. Details of Government of Fiji proposed activities for "Improved biosecurity systems"

3. Details of Government of Fiji proposed activities for "Improved inspection and quarantine services for Taveuni, Qamea, Matagi and Laucala"

4. Specific Recommendations for Inspection Services at International Air and Sea Ports (long-term strategy of Government of Fiji)

5. Wharfs, Jetties and Landing at Taveuni and Laucala: Biosecurity Recommendations (BAF long-term strategy)

6. Strategic and Tactical Plan for Eradication of Giant Invasive Iguanas (*Iguana iguana*) from Fiji

7. Outline of community of practice on IAS management in Fiji

8. Stakeholders consulted during project development

9. Multi year Work-plan

10. Terms of Reference for Key Project Staff

11. Monitoring Plan

12. Evaluation Plan

13. GEF Tracking Tool

14. UNDP Social and Environmental and Social Screening Template (SESP)

15. Results of the Capacity Assessment of the Project Implementing Partner and HACT Micro Assessment

16. UNDP Project Quality Assurance Report

17. Gender Strategy and Action Plan

18. Co-financing letters

Outline of Proposed Fiji National Invasive Species Framework and Strategic Action Plan (NISFSAP)

1. NISFSAP
    a. Introduction
        1. Introduction to Fiji
        2. The significant threat of IAS to Fiji
            a. Terrestrial
            b. Freshwater
            c. Marine
        3. IAS everyone's responsibility
        4. Biodiversity at risk
        5. The need for a NISFSAP
        6. NISFSAP development process
        7. NISFSAP linkages to other strategies, plans, frameworks, guidelines, etc.
    b. Guiding principles
    c. Goals, Themes and Outcomes
    d. Pathways analysis
        1. International
            a. Sea
            b. Air
            c. Other
        2. Internal
            a. Sea
            b. Air
            c. Other
    e. Roles and responsibilities
    f. Past and current programs/capacity
        1. Pre-border
            a. Sanitation
            b. Import risk assessments
            c. Preferred vendors
        2. Border
            a. Inspection
            b. Quarantine
        3. Post Border
            a. Awareness
            b. Buy-in
            c. Reporting network
            d. Early Detection
            e. Rapid Response
    g. Legislation, conventions and agreements
    h. Action Plan, including: indicators, risks, costs, timing and responsibilities
        1. Generating support
        2. Building capacity
        3. Legislation, policy and protocols

4. Baseline and monitoring
5. Prioritization
6. Research on priorities
7. Biosecurity
    a. Recommendations for strengthening national coordination
    b. Recommendations for strengthening national IAS prevention
        1. Develop National Black List
        2. Appropriate distribution of black list (possible posting on BAF website)
        3. Regular updating of black list (as need arises)
        4. Develop National White List
        5. Update date white list as needed
    c. Recommendations for strengthening national quarantine response
8. Management of established IAS
9. Restoration
10. Impacts of climate change of IAS
i. Monitoring and evaluation

Details of Government of Fiji proposed activities for "Improved biosecurity systems" (Output 1.3) as part of co-financing and/or longer-term strategy

Complementing the GEF supported activities would be a number of other activities that would be part of BAF's long-term strategy, some of which will be supported as part of the co-financing thcommitments, and others as part of the longer-term commitment of the government to improve biosecurity. These include the following:

- Provision of additional X-ray machines needed at international ports, including larger machines for cargo screening with higher resolutions for determining organic matter and further prevention of bioterrorism. This is a long-term objective that would be prioritized in terms of which ports to supply and in what order as part of the BAF strategic plan. Acquiring machines, training staff to utilize them and developing inspection protocols will be a long-term commitment of the government. This is being supported with co-financing from the Fiji Revenue and Customs Authority (FRCA), Airports Fiji Limited (AFL) and BAF
- An additional 20-30 front line inspections nationwide would be recruited for complete international (sea and air ports) and domestic (seaports) biosecurity coverage. This is a long term, on-going activity that would be prioritized as part of the BAF's co-financing plan
- Additional patrol boats and other equipment as part of BAF's long-term commitment to support GII eradication
- Upgrading inspection services and biosecurity supportive laboratory facilities for identifying IAS with development of remote microscopy. This would be part of BAF's long-term strategy.
- Ensuring that all international ports (including planning for the proposed international port in Rotuma) have a full suite of appropriate and comprehensive biosecurity elements in place and that staff are sufficient and appropriately trained and resourced. This would be achieved as part of BAF's strategic long-term plan
- Increased inspection of total volume of vectors, goods and passengers as part of long-term strategy
- Seaport inspections currently target high-risk items. Development of sampling methodology for implementation of random inspections in the future. A specified percentage of all goods would be inspected, not only targeted items but also a random selection of the total volume
- Training for both new and established officers as part of the BAF strategy (some support for preliminary training would be considered under the current GEF project, but ultimately training should be a long-term commitment from BAF

- Cross training of staff for front line agencies as part of long-term BAF strategy enabling officers from various offices to support each other's missions. This would include Police, Health, Immigration, BAF, AFL and Customs
- Tools, equipment and other resources required to conduct day to day inspection services activities would to be identified, provided and maintained for each inspection services facility, including vehicles, fuel, computers, etc. as a long-term measure and financed through BAF's longer term funding strategy
- Adequate and appropriate inspection, quarantine and treatment facilities would be established for each inspection services area with emphasis on main ports within island/island groups as part of BAF long-term strategy
- Review of status and improvements to inspection services at international air and seaports (Nadi International Airport, Suva docks, Rotuma seaport, Rotuma airport, Levuka seaport, Nasouri Airport, Vuda seaport, Denerau seaport) and covered with co-financing commitments. Some specific examples for some ports are provided in Annex 4. Institute domestic air service biosecurity inspections nationwide, expanding on the Taveuni, Qamea, Matagi and Laucala biosecurity operations
- Provision of comprehensive domestic water craft inspection services, expanding on the Taveuni, Qamea, Matagi and Laucala biosecurity operations as part of long-term strategy
- Ensuring that inspection stations for domestic movements (inter-island) are established with appropriate quarantine and treatment/disposition facilities and resources under BAF's longer-term strategy and plan
- BAF is currently planning to open additional domestic inspection stations. These new stations as well as all other domestic stations would be upgraded, as most do not currently have appropriate inspection facilities. A typical domestic inspection facility would require: incinerator, vehicles, boats, computers, internet access, quarantine and treatment areas, lab space, etc.
- Review of status and improvements as needed to inspection services at ports, wharfs, jetties and landings that handle domestic traffic (includes both domestic and international ports). See Annex 5 for further details of specific requirements for air and sea ports.

Details of Government of Fiji proposed activities for "Improved inspection and quarantine services for Taveuni, Qamea, Matagi and Laucala" (Output 2.2) as part of co-financing and/or long-term strategy

This output will help establish more comprehensive biosecurity for the four-island group, reducing the potential for pest species to enter and establish within the four-island group and move between these islands. The specific elements to be undertaken as part of co-financing and long-term BAF strategy likely include the following measures:

- Improved communications between BAF leadership and staff on Taveuni. Currently weekly plans are submitted and fortnightly reports sent. Given the improvements being suggested, it seems reasonable that for the short term, bi-weekly phone conversations be set between management in Suva and field staff on Taveuni. These conversations would begin prior to the start of the project and continue for four to six months (if not longer), to ensure that the four-island biosecurity development plans are proceeding appropriately and that field staff and Suva management are each aware and regularly updated regarding the situation as it unfolds.
- Improved BAF Taveuni office including moving to a more accessible location: The current BAF office is being moved to main road near the post office in Waiyevo. Space is already under contract and was in the process of being rehabilitated during June 2016. The new location will have two main rooms and overall is about 2.5 times bigger than current office. Internet, computers, phones, power, etc. has already been requested for the new office location. The office location should also have a securable holding room/laboratory space with basic equipment such as viewing scopes, microscope and freezer(s) for specimen treatment/storage. Office move and upgrading should be completed by the second year of project implementation. This is part of co-financing commitment.
- The establishment of holding facilities (quarantine) for plants and animals needs to be established on Taveuni (currently any animals arriving sick (or suspected of being sick) are transported to their final destination and treated on-site as feasible), which puts other animals/humans at unnecessary risk. Quarantine facilities should be established by 2020 for both plants and animals with interim facilities established by 2018. Clear quarantine procedures should also be developed by 2018 as part of co-financing.
- Taveuni needs a local veterinarian who can provide services to assist BAF as needed. If no veterinarians are available, BAF should consider training 2 or more biosecurity officers on Taveuni to serve as para-vets. Veterinary services (or para-vet training) to support BAF inspection services should be established by 2019. This will be covered under BAF's co-financing commitment
- Movement of soil, including bags of potting soil and similar items would be restricted requiring pest free certification or treatment prior to shipping. Treatment would be overseen by BAF and funded by the shipper. Policy and procedures should be developed and in place by 2019 as part of the GEF project, but its implementation will be part of BAF's long-term strategy.

- Random inspections would be implemented for passengers and cargo on arriving ferries. Once adequate staffing are in place to conduct inspection services, random inspections should be initiated as part of long-term commitment.
- A system for identifying potential high-risk cargo would be developed for both boat and air cargo. In regards to ferry services, a manifest system for private truck and vehicle owners/drivers to provide to biosecurity officers on arrival that list out major items being transported and specifically ask questions regarding transport of high risk items would be considered. This type of system would be similar to that which is used to screen international air passengers on arrival to Fiji. A similar system would also be developed for domestic air and ferry passengers. Prototype system should be trialed on Taveuni by 2020 as part of co-financing commitments.
- Sanitation requirements for vehicles being transported on roll on/roll off ferries would be established and enforced. Minimally vehicles would be free of noticeable dirt and vegetation. Appropriate wash down facilities should also be established for vehicles requiring treatment. Policy and procedures should be in place for vehicle sanitation by 2019 and implementation as part of BAF's long-term commitment.
- Similar sanitation regulations would be developed for boats and ships transiting between islands. Minimally hulls and other elements protruding into the water would be free of living organisms. Providing inspections with basic training on hull sanitation inspections and equipment such as mirrors on poles would improve biosecurity in this regard. Development of initial procedures should be completed by 2019 with updating/upgrading as possible to improve systems as part of long-term commitment.
- Provision of adequate resources to ensure biosecurity inspections are feasible for air and watercraft departing and/or arrive at these islands. Necessary resources would include vehicles with associated fuel and maintenance, inspection facilities, quarantine facilities, treatment facilities and equipment, communication resources (smart phones and internet access) office space and equipment as part of BAF's long-term commitment.
- Incinerators, quarantine and treatment facilities would minimally be established at Matei Airport and the Salia Wharf. Ideally, each point of entry into the four-island group (expect for the air strip and wharf on Laucala) would have an inspection services area including quarantine and treatment resources. These areas need to be manned by trained biosecurity officers. The inspection services areas should minimally include roof, inspection tables, benches and a lockable area to keep various tools and equipment secure. Near to the inspection services area would be an area that has been established as a quarantine zone as needed where suspect goods, etc. can be kept until they can be thoroughly inspected. Protocols and possibly areas for treating or destroying infested items also need to be established. Ideally, small incinerators can be established and maintained at each point of entry or covered vehicles provided to ferry infected items arriving at smaller landings to incarnates located at larger points of entry such as the airport or government wharf. Existing biosecurity operations minimally require a vehicle to facilitate inspection services. Ideally the vehicle should be a newer 4x4 twin cab. An additional two (possibly three) vehicles would be needed to address existing gaps in inspection services. These activities will be part of commitments from BAF and its partner agencies

- Expand existing biosecurity inspections for watercraft, passengers, baggage and cargo between Taveuni and Viti Levu, Vanua Levu and other areas within the country. Includes inspections of large and small commercial (and private used for commercial) conveniences and associated passengers and cargo departing from all landings, jetties and wharfs. Implement biosecurity inspections for all watercraft, passengers, baggage and cargo moving between any of the four islands (Taveuni, Qamea, Matagi and Laucala). Ensure inspection for all watercraft, passengers, baggage and cargo moving to and/or from Qamea, Matagi or Laucala to other parts of Fiji such as Viti Levu or Vanua Levu (see Annex 3 for more details).
- Agreements with regular transporters would be sought, especially those moving between Taveuni and any of the three smaller islands in order to facilitate inspection services on Taveuni both prior to departure and on arrival. Ideally, regular transporters can, working with BAF ensure that inspectors are on site for both departures and arrivals, insuring no or minimal delays to the transportation system in regards to inspection processes.
- Implement biosecurity inspections at airports for aircraft, passengers, baggage and cargo prior to arrival and departure on any of these islands. This would include establishing inspection services at Nadi and Nasouri airports for flights departing for Taveuni and/or Laucala. It would also include establishing biosecurity services at Matei Airport on Taveuni for departing flights. As it would be difficult to facilitate biosecurity inspections prior to flight departures on Laucala, these flights would be inspected on arrival in Nadi (or Suva depending on where it departs from and arrives to), initially as part of co-financing commitments and later as part of the long-term strategy.
- Taveuni currently has two full time inspection officers. The minimal number of personnel to cover biosecurity for the four-islands at the current volume is: four full time inspection officers on Taveuni primarily conducting inspection/quarantine processes at Salia, Lovonivonu, Wariki and Matei. An additional three part time officers could serve to cover arrivals and departures from the various landings to/from Qamea, Matagi and Laucala (and any other locations). There would be a manager for national projects within BAF's institutional structure to oversee day to day activities of inspection officers on the four islands and to assist as needed with general duties including inspections. Full and part time positions should be filled by the end of first project year.
- In order to establish an adequate workforce to provide inspection services for all water and air transport to and from Taveuni, Qamea, Matagi and Laucala, additional officers will be employed, trained and resourced as part of BAF's long-term strategy. The majority of these additional workers are likely best situated on Taveuni where resources can be shared among the various positions. Additionally, some services which support improved biosecurity for these islands can best be developed on Viti Levu, such as departing air craft biosecurity inspections and improved inspection of water craft. An example would be for aircraft moving between Nadi and Laucala. These flights would be inspected at Nadi International Airport both on departure and on return (eliminating the need for having biosecurity officers present on Laucala prior to airplane departures from that island).
- Continuation of the comprehensive awareness program for the four-island area, beyond the period of the GEF project with BAF support.

Specific Recommendations for Inspection Services at International Air and Sea Ports (long-term strategy of Government of Fiji)

1. Nadi International Airport: main international airport for the country
   a. Nadi International Airport inspection services are fairly complete at this time (2016) for international arrivals. Currently there is 100% screening of all passengers and their baggage and there are quarantine and treatment rooms.
   b. Institution of biosecurity detector dog team would improve detection potential
   c. There is a need for language translators (especially for Korean and Chinese) to support inspection services. Translators could be hired and on-call to support operations as needed.
   d. Need additional training on new x-ray machines (they have new machines but have not received enough training to use them to their full extent), that would be included as part of the X-ray machine maintenance costs
   e. Older x-ray machine in cargo area needs parts to make operational
   f. Need to purchase a larger x-ray unit for cargo. Cargo currently arrives daily on passenger flights from New Zealand, Australia and the United States. Planned in 2017.
   g. Need improved produce/cargo inspection area as the current area is extremely limited in size and has little to no resources. Inspection area would have multiple workbenches with lights and viewing scopes, as well as one or more microscopes. This area would also have freezer capacity for destroy pest on site. Planned by FRCA and partners to be operational in 2018
   h. Current layout of the inspection services main building and the air cargo facility is not ideal. While the buildings are located side by side, there is no direct linkage and inspectors must move items outside to transport from one facility to the other (this should be addressed if feasible to reduce the potential for organisms to escape into the environment).

2. Latoka seaport, second largest seaport after Suva. Latoka handles lots of bulk items for export and approximately 35% of Fiji's imports. Private yachts and fishing boats also utilize Latoka seaport. There is an incinerator on site (this incinerator is also currently used by various other ports such as Vuda and Denarau)
   a. Institute random cargo inspections of a percentage of all cargo volume
   b. Develop a specific quarantine area where suspect cargo can be stored until properly inspected (and treated if needed**).** All major ports should have a quarantine area for suspect cargo storage until it can be treated and/or returned to the ship. Area idea is enclosed so that any suspect containers can be opened and inspected inside the quarantine area without risk of pest being released.
   c. Current wash down area has dirt substrate and is located proximal to the bay and a fence with vegetation. This is unsuitable and should not be utilized as a wash down area. The wash down area needs to be located away from water and fence

edge and must have an asphalt or concrete base with drains to collect run-off (including dirt and organisms) for treatment.

    d. The treatment area is located in the middle of the port and while it has a cement substrate, it is currently covered by several inches of dirt and loose stone. Ideally, the treatment area should be better contained, perhaps with sidings, etc. The treatment area should be clean and well maintained to reduce the potential of organism escape. Any residuals from treatment should be collected and incinerated.

    e. Amnesty bins with appropriate signage should be strategically placed around the port and check and any items deposited property treated immediately.

3. Vuda port

    a. Should have its own quarantine and treatment facilities, including an incinerator so that items do not need to be transported to Latoka for treatment/destruction reducing the potential of organism escape while in transport.

4. Denarau seaport

    a. Needs 1-2 additional biosecurity officers to ensure appropriate inspection services at current volume levels

    b. Should have its own quarantine and treatment facilities, including an incinerator so that items do not need to be transported to Latoka for treatment/destruction reducing the potential of organism escape while in transport.

5. Rotuma airport

    a. Rotuma airport is tentatively scheduled to be developed into an international port and therefore, as part of this process ensure that biosecurity is upgrade to augment these changes as they occur

Wharfs, Jetties and Landing at Taveuni and Laucala: Biosecurity Recommendations (BAF long-term strategy)

- There are various wharfs, jetties and landings in the four-island area. To ensure the maximum capacity for inspection services biosecurity on Taveuni should (as much as feasible) conduct of inspection services for both arriving and departing craft from all of these location, should be instituted (to the extent feasible) with the exception of the large ferries at the government wharf where arrivals should be inspected, but departing ferries can be inspected on arrival at their next destination.

- Lovonivonu jetty (also known as the Korean Wharf): This jetty is located near Naqara and is the main jetty for passenger ferries to and from Vanua Levu. There were two ferries but one was damaged in Cyclone Winston during early 2016 and during the June 2016 site visit neither ferry was running, as the remaining ferry was under-going repair. Smaller private boats are still making the run between Taveuni and Vanua Levu. Biosecurity officers need to be able to check main ferryboats daily and should also be inspecting private craft when feasible. The main ferries usually run on a morning schedule, departing Taveuni around 8AM and returning from Vanua Levu around noon. Small private boats currently go whenever.

- Salia Jetty (Government wharf), just south of Waiyevo: Utilized mainly by roll on/roll off ferries, which have specific schedules. Biosecurity officers are already monitoring off-loading of these large ferries. A specific inspection area should be established as well as a quarantine and treatment area. An incinerator should be established as well. Time needs to be made available for inspection process and detailed inspections need to occur for a higher percentage of the total cargo and passengers.

- Wariki landing: haphazard usage by small boats to and from Vanua Levu. Generally used to bring shoppers to Taveuni from smaller communities on Vanua Levu. Landing is just below Catholic mission. When possible these boats and their cargo should be inspected. If there is a regular or semi-regular service to bring shoppers to Taveuni, it may be feasible to have boat captains contact BAF on Taveuni to inform them of approximate arrival and departure times to better insure inspection are completed.

- Boats going to and from Yanuca Island utilize small landing just east of Matei Airport. These boats should be inspected as feasible. Again, if there is a regular or semi-regular service provided it may be feasible to arrange to have boat captains contact BAF regarding approximate arrival and departure times to facilitate inspections.

- There are three landings utilized by boats arriving from and departing to the outer islands (Qamea, Matagi and Laucala) to arrive on Taveuni. Boats typically arrive on high tides during the daytime. Saturdays are the highest traffic level for these three landings. Boats should be cleared by biosecurity officers on arrival and departure. Most boats utilize the landing closest to Lavena. This landing is a sand beach and is referred to as the third landing. As many as 17 boats may arrive here on any given Saturday. Larger boats coming to/from the resorts on the outer islands mostly

utilize the second landing. If agreements were established, the various resorts could contact BAF in Taveuni to inform them of boat arrival/departure dates and relative times, enabling biosecurity officers to be on-site at arrivals and departures to conduct inspection services.

- Laucala island resort has its own small cargo ship which runs between Laucala and Suva twice per week. This ship should be clearing biosecurity inspections both prior to departure and on arrival in Suva. Currently it may have inspections prior to departures but likely nothing for arrivals. Since it cannot be inspected easily in Laucala, it should be inspected on arrival in Suva.

- Laucala has a personnel ferry that runs between Laucala and Qamea daily. BAF should work with the resort to develop biosecurity regulations for this craft and likely with minimal oversight, the resort should be able to ensure appropriate biosecurity is in place and enforced for this craft.

Strategic and Tactical Plan for Eradication of Giant Invasive Iguanas (*Iguana iguana*) from Fiji

Background

A foreign landowner released approximately ten juveniles of the invasive American iguana (*Iguana iguana*) on his Qamea property in 2000. In Fiji, these animals are referred to most commonly as Giant Invasive Iguanas (GII). This species has proven to be a major pest throughout the Caribbean area where introduced (Falcon et al., 2013) because of the tremendous densities that it can establish and its impact on vegetation and human-made structures. The original Qamea animals spread rapidly and are now known to heavily infest Qamea and Matagi (Fig. 1). They likely infest Laucala to a similar extent, but that island is privately owned and operated as an exclusive resort, and the managers of the island deny that they see iguanas, even though animals have been retrieved from there and workers on the island report seeing them. Hence, the exact degree of infestation on Laucala remains unknown. The situation on the much larger island of Taveuni remains even more uncertain. Four iguanas were retrieved from widely separated localities on that island between 2010–2014, and at least nine other unconfirmed sightings have also been reported from the island (van Veen, 2011), raising concerns that the species may be established there as well. However, survey work in iguana habitat and among the inhabitants of Taveuni has not been comprehensive enough to determine whether iguanas are established there or not. Outreach activities on that island have been suspended for the past three years, so recent information on possible sightings is not available. Furthermore, single reports of iguanas have been received from Vanua Levu, Koro, and Wayaka islands (van Veen, 2011).

Figure 4.1. Known locations of capture or sightings of the Giant Invasive Iguana on the islands of Qamea, Matagi, and Laucala (red dots). Information retrieved from BAF personnel and villagers of Qamea.

The first iguana reported to officials was in 2002, and by 2009 there was sufficient concern about the iguanas that survey and awareness campaigns were initiated. From 2009–2014, a number of reports was produced summarizing knowledge of the iguana situation in Fiji and making recommendations for immediate management response (Naikatini et al., 2009; Harlow and Thomas, 2010; van Veen, 2011; NatureFiji-MareqetiViti, 2013; Saunders, 2014; Saunders and van Veen, 2014). Details about the history and development of this invasion as well as likely impacts in Fiji if the iguanas are allowed to explode in numbers may be sought in those references and need not be repeated here. Details aside, what may be generally concluded is that if a program of eradication is not begun on a professional footing very soon, the iguanas will spread beyond control in Fiji, from there they are likely to eventually colonize other island groups in the region, and the hospitable habitat in this region makes it possible, if not likely, that damages to vegetation, subsistence farming, and human structures will be similar to what has been experienced in the Caribbean. This need for immediate eradication has been emphasized in every report on GII in Fiji since 2010.

Recommendations for how to proceed with iguana eradication have been given in van Veen (2011), NatureFiji-MareqetiViti (2013), and Saunders (2014). The general conclusions in those reports are sound, although some of their recommendations are not ideal given the logistical limitations of working in the field on the infested islands and given the time constraints that are applicable now that the iguanas have been allowed to spread for 16 years. What I provide here is a series of logistical and tactical recommendations that must be met for iguana eradication to have any chance of success in Fiji. I also comment on a few of the previously made recommendations and previously taken actions that pertain to eradication success. Lastly, there are several of the risks that must be minimized in order to achieve successful eradication of GII from Fiji.

General Principles

First a few comments are necessary as to what is required in order for an eradication program to be successful. As made clear by Bomford and O'Brien (1995), there are three criteria that must be met to ensure eradication of alien vertebrate populations:

1) The rate of removal must exceed the rate of increase at all population densities.

2) Immigration into the treated area must be prevented.

3) All reproductive animals must be put at risk.

The first requirement is very problematic for GII because the fecundity of the species is high, with females laying one clutch/year of up to 80 eggs. Obviously, this reproductive capability gives the species a high potential rate of population increase, as suggested by growth projections provided in NatureFiji-MareqetiViti (2013) and Saunders (2014). It is not yet clear that humans alone can provide this high level of predation pressure on iguanas, and this is a major risk for any eradication program for this species. How to best meet this need is discussed below (see Strategic Concerns, item 4). In the present instance, the second requirement is readily met if eradication operations occur on all infested islands simultaneously

because there is no other source for iguana immigration in Fiji. The third requirement may well be achievable with GII in Fiji, as discussed below (see Strategic Concerns, item 5).

A second point must be understood from the beginning of any eradication project. Every eradication operation is a high-risk project, meaning that even with a major, competent effort being undertaken there is no guarantee of ultimate success. This is because the biological attributes of the species, or the logistical features of the area to be treated, may be beyond the capabilities of humans to effectively overcome. Examples that can lead to failure include a species' high reproductive rate, difficulty of detection, or absence of effective control methods. Humans too can undermine eradication operations by transporting the targeted species to new locations, thereby sabotaging the eradication program, or by politically hindering response actions until it is too late to control populations. Having noted these limitations, it is important to also note that many improvements in eradication technology, planning, and execution have been made in the past two or three decades, and eradications are now successfully occurring in areas much larger than thought possible only a few years ago. However, this applies primarily to eradication efforts aimed at invasive mammals because most effort has been directed against them. As yet, there is no example of a successful eradication program against an invasive reptile anywhere in the world. This should not be understood as a statement that all eradication attempts directed at an invasive reptile are doomed to fail. Instead, this poor record is a reflection that "eradication" attempts against invasive reptiles have always been undertaken at a point in the invasion process at which the species was too numerous to remove, and these programs have typically not involved the commitment of sufficient resources to see efforts through to completion. In short, poor planning and execution are to blame for the present absence of successful alien reptile eradications.

In the case of GII in Fiji, 7 years have now elapsed since concerns about the invasion were raised, and 16 years have elapsed since the original introduction event. Much critical time has been lost, but it may still be feasible to eradicate these lizards if a comprehensive, competently executed program is immediately put in place. Nonetheless, such an eradication project still entails a large degree of risk both because the population status of iguanas is poorly known on all islands and because effective control tools are limited and not yet rigorously trialed. However, the risk of not making the attempt is likely higher than attempting the eradication because the consequences of millions of iguanas throughout Fiji are likely to be dire to native biodiversity and human livelihoods.

A final point that must be recognized is psychological. "Eradication" means reducing a population to zero animals (or at least terminating reproduction while the remaining animals die of natural causes); it does not mean reducing a population only to a point where animals become difficult to find. As a result, it is often pointed out that 90% of the resources spent in an eradication program may be spent removing the last handful of animals. This must be recognized from the outset of an eradication operation because once animals become difficult to find, staff interest, morale, and effectiveness can decline. This psychological limitation needs to be understood and planned for from the very beginning of the operation. It may require that new staff be hired at periodic intervals, but most effective is that staff be trained from the

outset to expect this result and work their way through it – much like a marathon runner expects to hit "the wall" and nonetheless works his/her way through it with determination and discipline. The same discipline will be needed to ensure successful completion of any eradication program. This need for discipline applies not only to the field staff doing the control work. It is equally critical for the agency managers and funders to recognize from the onset of a project the need to commit sufficient resources and time to see the project through to completion. In the case of GII in Fiji, this is likely to require ten or more years because the lapse of time since the original introduction has allowed iguana numbers to reach high numbers.

Strategic Concerns

1) *The iguana situation on Taveuni must be understood before it can be known whether eradication from Fiji is feasible*. The islands of Qamea, Matagi, and Laucala, on which iguana populations are known to occur and from which most iguanas have been taken, are small enough that it is conceivable that a large, coordinated, and competently planned and executed eradication operation can succeed, given maintenance of the required resources for a sufficient time period (likely >10 years). However, any such actions on those islands will be moot if one or more iguana populations should already be present on Taveuni and allowed to spread. Should iguanas become widespread and entrenched on Taveuni, there is no chance of their eradication from Fiji because that island is far too large on which to mount a successful iguana-eradication program. Instead, management would have to be refocused on improved biosecurity attempting to prevent their spread to the remaining islands of Fiji. Further, should iguanas become entrenched on Taveuni, the high biodiversity values of that island (Chape, 2006; Olson et al., 2009) would likely be severely compromised over the next several decades. For these reasons, one of the two highest priorities for management of GII in Fiji is to determine as rapidly as possible the true status of GII on Taveuni.

This will require a two-pronged approach sustained for at least one year and preferably two. The first approach must be to re-initiate a comprehensive public-outreach program on the island that seeks to reach every possible audience. Hence, efforts must be made to reach *iTaukei* villagers, farming communities of Indian background, freehold landowners, the tourist industry, etc. What is required is not only to instruct these communities in the threat that GII will pose to Taveuni (and Fiji) over the long-term but to instill a feeling of ownership in this problem among these communities, leading them to want to help solve the problem. At present the attitude is widespread that GII are a governmental problem but not one that involves local citizens. This misperception needs to be changed so as to generate a local sense of responsibility that will make the citizens of Taveuni assist in stopping the GII invasion. Thus, a major focus of the public-outreach program must be to instill this sense of ownership and to actively seek reports from the public of all possible sightings of GII. Unfortunately, the suspension of the former public-outreach program means that there is no current information as to whether iguanas continue to be sighted on Taveuni or not, and outreach efforts will have to begin anew. These can, however, tie into other existing outreach efforts on the island.

The second approach for assessing the status of GII on Taveuni must be comprehensive surveys of all possible nesting sites for iguanas on the island, with an emphasis on the northern and eastern sides of the island. Concentrating on nesting sites will be the most effective means of locating iguanas, should they be present. Appropriate nesting areas will include all sandy beaches, landslides, gardens, golf courses, and road-cuts with sun exposure and soft soils in which iguanas can dig nests. These surveys should be done looking for iguanas or visible signs of their passing (i.e., tail drags) as well as using dogs trained to detect iguana scent so as to locate buried nests.

Given the size of the island, staff required for this purpose is likely to be approximately 8–10, with staff comprising a mix of persons of *iTaukei* and Fijian of Indian descent ancestries so that the different communities can be engaged in the language with which they are most comfortable. Needed too will be three vehicles to move staff around the island, facilities for at least 2–4 iguana dogs, and high-quality public-education materials in all relevant languages (Fijian, Hindi, English). Any time that staff are free from pursuing these two primary objectives can be used to revisit communities on the islands of Vanua Levu, Koro, and Wayaka islands to determine whether prior reports of GII there were one-off (or perhaps erroneous) sightings or whether iguanas are now being sighted more frequently in those areas, reflecting presumably established populations. Current thinking suggests these were isolated occurrences of single iguanas transported by humans, but this should be verified to be sure that activities focused on Qamea, Matagi, and Laucala are not undermined by overlooked populations elsewhere.

If this one- or (preferably) two-year effort should credibly show that iguanas seem absent from Taveuni (and elsewhere to the west and north), the eradication of iguanas from Fiji may yet be achievable because the islands that are known to be infested are sufficiently small that eradication may still be feasible with a well-planned and adequately staffed program.

2) *Eradication from Qamea, Matagi, and Laucala must be pursued while awaiting the findings from Taveuni*. Despite the fact that the status of GII on Taveuni determines whether there is a credible chance for GII eradication in Fiji, actions against the existing populations on Qamea, Matagi, and Laucala cannot be suspended while awaiting the outcome of surveys on Taveuni. Too much time has already been lost because iguanas have been given 16 years to expand in numbers on these islands with only minimal actions taken against them to date. Further time cannot be wasted before beginning to reduce these populations if an explosion of iguanas is yet to be averted. In other jurisdictions in which iguanas have become pestilential, that state of affairs typically began ca. 30–40 years after initial introduction. Hence, it is reasonable to expect that the window of opportunity for successful GII eradication on Qamea, Matagi, and Laucala is rapidly closing. Consequently, it is critically important that much-increased efforts be made immediately to drastically reduce the size of GII populations on these three islands. Not only will lower iguana numbers reduce damages on these islands, it will reduce the likelihood of their colonizing

additional islands. Some staffing and equipment needs for this are discussed below under Tactical Concerns.

3) *Eradication effort must prioritize western populations first*. The GII invasion is currently confined to islands near the eastern margin of Fiji. This means that most of currently unoccupied Fijian territory that the iguanas could colonize occurs to the west and southwest of those infested islands. These areas are, of course, most at risk of colonization by those iguana populations in closest proximity, which are the westernmost populations on Qamea and Matagi. The critical need to prevent Taveuni, Vanua Levu, and other islands to the west of Qamea from being colonized by GII means that the highest priority for eradicating GII populations must be along the broad western side of Qamea, which is the most likely source for iguanas to swim across to Taveuni or other islands. By reducing iguana densities along this broad western front first, the risk of iguanas swimming across to Taveuni in search of better habitat will be lowered. This is important for the reason noted above: if Taveuni becomes infested by GII, then there is little hope for preventing further spread across Fiji or for preventing significant biodiversity impacts on Taveuni itself. Thus, heavily reducing iguana numbers in western Qamea must be the highest-priority action in the eradication program on the three infested islands. Once significant knock-down of GII populations has been achieved in this region, the weight of eradication effort should then proceed in a broad front across Qamea to the east, at the same time including Matagi. As noted earlier, ideally eradication can proceed on Qamea, Matagi, and Laucala simultaneously, but in the event that sufficient resources for that approach are not immediately available, priority must be given to reducing iguana populations in the west. Should surveys lead to discovery of an iguana population on Taveuni, eradication of that population must become the highest priority, followed by the west-to-east strategy just described.

4) *Eradication will only succeed if the maximum possible number of searchers is used*. The greatest limitation for successfully eradicating GII is the difficulty in detecting animals. This makes a program of visual search by hired staff important but ultimately insufficient. Adult iguanas spend most of their lives in tree canopies, where they are often hidden and very difficult to locate. Furthermore, iguanas have sharp eyesight and are usually sensitive to human presence; hence, they will typically hide before humans are close enough to catch a glimpse of them. Consequently, it is difficult to provide a high enough rate of iguana removal by merely relying on human hunters walking through the forest or along coastlines or rivers. Most iguanas will simply not be seen using such methods. Because of this limitation, it is imperative to increase the numbers of searchers looking for iguanas beyond just the hired BAF staff. Two additional sources of searchers are available and should be employed to the maximum extent possible. The first is the inhabitants of Qamea and Matagi (and the working staff on Laucala). Currently, few inhabitants on these islands accept responsibility to find and remove iguanas, not yet being convinced that the GII poses a personal threat to their livelihoods. Increased public-outreach efforts supplemented with more compelling educational materials making clear the future consequences of allowing further iguana expansion can heighten the sensitivity of these inhabitants to the problem posed by the iguanas and enlist them in efforts to locate, report, or kill iguanas they see. The second source of additional hunters that can be enlisted in GII control are the many village dogs that run freely through the forests. Dogs are more

effective at finding iguanas than are humans because of their keen sense of smell. Many village dogs are underfed and, once taught a taste for iguana meat, will no doubt take the initiative to hunt GII on their own. Currently, BAF staff on Qamea have begun initial trials to inculcate a taste for GII meat in some of their privately owned dogs, and the results have been encouraging, with some dogs hunting and killing GII under their own initiative. This trial program should be expanded island-wide so as to provide an entire cadre of GII hunters that will often be more effective than humans. Because dogs will only be able to remove iguanas that are on the ground, they will necessarily be preferentially removing juveniles and females seeking to nest. Both population segments are highly important to further population growth. Juveniles are less arboreal than adults and spend most of their time in thickets of vegetation at or slightly above ground level, making them highly susceptible to dog predation but little impacted by human search efforts. Removing juveniles will have the salutary effect of reducing population recruitment rates, so this will likely be an important control tool.

Despite this need to use the maximum number of searchers in detecting iguanas, it must be emphasized that this needs to rely on trained or experienced searchers. Hence, the emphasis here is on using trained BAF staff, inhabitants of the infested islands who may be familiar with iguanas, and dogs trained to find iguanas. It cannot be expected that bringing in large cadres of outsiders, such as military personnel, will be an effective tool for iguana control because such individuals will not have the search image or biological knowledge of iguanas to make very effective searchers. Worse, their potentially inept actions could train iguanas to become more avoidant of humans, making them virtually impossible to detect in future, and they could potentially alienate local inhabitants to the iguana program.

5) *Eradication must preferentially target females*. As noted above, successful eradication requires that all reproductive animals be put at risk. Strictly speaking, this isn't entirely true because the rate of population increase for an animal population is limited by the number of females, not males. If all females were removed, it wouldn't matter how many males remained because successful reproduction will have been terminated, and the males will eventually die out, causing the population to go extinct. Hence, what is critical for successful eradication of GII is that all females be put at risk. Thus, any eradication program for GII must preferentially target females. Fortunately, the life history of GII allows for just this approach. The weakest point in the life history of GII is the need for females with eggs to descend to the ground and search for suitable nesting areas in which to lay their eggs. These areas are primarily sandy beaches, but they can include any areas of sunlit soft soil, such as the slumped soil along the bottoms of landslides or exposed surfaces of road cuts. Fortunately, on Qamea and Matagi roads are absent, removing one source of potential nesting sites. However, there are many extensive sandy beaches on those islands, and landslides and gardens are common. In order to seriously reduce further recruitment of new iguanas into the population, it is imperative that as many females and nests be removed as possible. Fortunately, because of their strict nesting requirements, this can be achieved by concentrating hunting effort on potential nesting areas during the period (August–November) when females are seeking nesting sites on the ground. Consequently, it is imperative that during each nesting season staff effort is concentrated so as to guarantee daily coverage of all possible nesting areas. This action is likely to prove more important

in halting iguana recruitment and reducing population sizes than are all other control actions during the remainder of the year. And highly successful actions against this reproductive segment of the population provide the possibility for successful population reduction of iguanas even should most other animals in the forest be recalcitrant to detection.

A second consideration is that attempts are currently made to capture all iguanas detected. However, it may be more effective for population control to locate large males during the breeding season, leave them unmolested, and carefully revisit them on a daily basis. Males will attract or sequester breeding-age females in their territories during this season while defending them from other males. So visiting these territories during the breeding season (likely April to June) to search for and remove satellite females (and smaller males that may attempt to copulate with these females) is likely to be of more benefit in population reduction than would be killing the large males. In contrast, killing the large, territory-holding males will only cause the females to disperse through the forest in search of other mates. Using large males as lures to preferentially target nearby females for control can be used to supplement surveys of nesting grounds for females. Both methods preferentially target that segment of the population most critical for population increase or reduction. Males especially successful at sequestering females should probably be left unmolested to use through multiple years.

6) *The current bounty program needs to be terminated*. In 2013, it was decided that a bounty program was needed to improve take rates of iguanas. Unsurprisingly, this has not proven to be the case. Bounties have never proven effective in eradicating invasive species, and there is certainly no reason to expect that to be any different for a highly cryptic species like GII. Detection probabilities for iguanas are so low that most inhabitants of the infested islands have not viewed the F$10 reward to be a sufficient incentive to spend their time finding iguanas. Much more problematic is the risk that bounties pose in providing a perverse incentive for some citizens to release iguanas into new areas so that they can ranch them and collect bounty rewards. This has occurred with other bounty programs for invasive species, and the risk of the same occurring with GII certainly outweighs the minimal benefits obtained by retrieving a handful of additional animals. A further problem with bounties is that it sends the wrong signal to the affected human population. It teaches them to view iguanas as someone else's problem (whoever is offering the bounty) instead of recognizing their own responsibility for helping to solve the problem. Because one of the greatest needs in achieving GII eradication from Fiji is the need to change the common mindset among villagers that the iguana problem is the government's responsibility and not their own, use of a bounty further hinders changing that mindset. Hence, it is important that the bounty by phased out. The reasons for this can be explained during outreach activities in the local communities.

The bounty seems to have mostly been used as an encouragement to existing BAF field staff to find iguanas. Currently, BAF field staff are paid a monthly baseline salary, and this is supplemented by bounties paid on every iguana they catch and kill. Such a monetary inducement to maintain staff interest in searching for iguanas may not be a bad idea, although it would probably still be advisable to divorce that inducement from a bounty system per se. Hence, it might instead be a better idea to provide some other form of staff inducement so as to avoid the potential negative ramifications of a bounty system. Monthly

(or weekly) rewards for the staff member with the highest catch rate might be one alternative, but others could no doubt be devised. The important point is that BAF has to give serious thought to replacing the bounty system with something less likely to provide perverse incentives to move iguanas to new areas and less likely to maintain the perception that the iguana problem belongs to the government instead of the villagers whose livelihoods will be affected once iguana numbers explode as they have in the Caribbean.

Tactical Concerns

1) *The need to rely primarily on hunting*. Theoretically, iguanas could be removed from the field using a variety of means. Although some of these options merit some degree of testing, the primary means of iguana removal must be through hunting, both by humans and by dogs. Previous reports have recommended also using trapping methods to remove iguanas. This may be useful in certain limited circumstances; however, a variety of iguana attributes makes trapping them unlikely to be successful over a broad landscape. First, iguanas tend to avoid items new to their environment and, hence, will be unlikely to approach traps until they have become used to seeing them in their home ranges for quite some time. Second, traps baited with food are unlikely to be effective at any great distance. Because iguanas are largely arboreal, and movement between trees is laborious, iguanas are not generally inclined to move very far, even when they see an attractive lure like food. Hence, food-baited traps would have to be placed in fairly dense arrays in order to effectively trap a population, and sufficient traps and bait for such an operation are not likely to be frequently available to be of much use in reducing iguana populations. However, it may be true that trapping with food lures could prove useful for control in certain small areas in which other options are more limited (e.g., resort areas). Lastly, it has been proposed that pheromones (chemical sexual signals) might be useful as an iguana lure. However, development of a pheromonal lure would require many years of research and development, previous attempts to find such lures for snakes have proven unsuccessful, and the high costs of such a research program would be more efficiently spent on hunting operations.

As stated above under strategic concerns, iguana detection must rely on both humans and dogs. Human detection should include both dedicated BAF staff whose jobs are centered on hunting iguanas, as well as the general public, who should be convinced to maintain greater vigilance for iguanas and report sightings immediately. Hunting efficiency of BAF staff can be improved by training them in a brief program run by experienced hunters specializing in IAS eradications elsewhere, such as New Zealand. Dogs need to be used in two different contexts. First, several trained canine teams (where one canine team = dog + dedicated handler) should be developed to search for iguanas in the field and to detect nests. Locating iguanas by scent avoids the difficulties humans have in locating them by sight and should lead to higher detection rates. Dogs for this use should be found in Fiji and trained there so as to ensure physiological tolerance of the tropical conditions and terrain under which they must work. Training interested BAF staff to learn how to themselves train and run dog teams for this purpose can be done by hiring an outside conservation-dog trainer for initial training visits of 2–3 months duration, with follow-up visits by that

trainer to help assess the effectiveness of the canine program as it develops. Secondly, as stated earlier, it would be advisable to train the village dogs on Qamea to develop an interest in hunting iguanas on their own. In that manner, a broad number of additional canine hunters can be cheaply used to reduce iguana numbers, although, admittedly, information on iguana take via this method will be unavailable.

2) *Efficiency of iguana take.* To date, iguana removal has relied almost entirely on hand capture of animals by BAF staff or concerned inhabitants of the infested islands. Our best estimate is that effectiveness of hand capture is probably about 40% when iguanas are pursued by single trained adult, and this increases to perhaps 80–85% effectiveness when two or more trained adults pursue a single iguana. Time needed for these efforts is considerable, making hand capture inefficient even when successful. More problematic is that when capture is unsuccessful, escaping iguanas are trained by their traumatic experience to carefully avoid humans thereafter, making their subsequent detection very unlikely. Hence, to achieve GII eradication it will be necessary that take methods increase considerably in both effectiveness and efficiency. This is both to avoid unnecessarily training iguanas to avoid humans, increasing an already difficult detection problem, but also to employ resources and staff more efficiently so as to improve overall take rates. Both effectiveness and efficiency can be greatly improved by shooting iguanas with small-caliber (.17 or .22) rifles with noise suppressors. Staff with some degree of initial shooting talent can be trained by the military to improve their skills. Shooting by talented staff will greatly decrease the chances of iguana escape, thereby avoiding the problem of training iguanas to be undetectable in future. The minimal noise made by small-caliber rifles with noise suppressors also makes it unlikely that iguanas will become alarmed should the shooter miss on the first attempt, thus providing an opportunity for a second shot. Thirdly, this method will save the considerable time currently spent trying to surround iguanas on the ground, knock them from their perch, and catch them upon landing on the ground (or in the water). This will allow teams to cover a greater extent of territory each day, again increasing efficiency of the control effort. To put the case clearly: if control efforts continue without using rifles, they will be doomed to fail because they cannot be made effective and efficient enough to reduce iguana populations to the extent needed. The same is almost certainly true regarding the use of trained canine teams.

So, eradication of GII must rely primarily on two methods: hunting with small-caliber rifles and hunting with trained canine teams. However, it remains unknown whether these two methods, even when properly applied, are sufficient to reduce iguana populations quicker than the replacement rate of the population. This is because no previous attempt to eradicate an invasive iguana population has been professionally attempted. Therefore, it is imperative that during the second year of this project, once trained shooting and canine teams are available, that they be tested for their efficiency in removing iguana numbers. This will be done with a simple experiment marking a set number of iguanas (say, 20) in a constrained area, releasing them with radio-collars, and then having the removal teams hunt through the area to determine the percent take of those marked animals. This will provide the information necessary to determine whether iguana eradication is feasible with the available technology and, if it is, how many hunting passes must be taken through an area to guarantee population knock-down to zero. If hunting efficiency is well below iguana recruitment rates, the eradication program will be terminated as infeasible.

If efficiency is sufficiently high, however, eradication will be viewed as feasible, and the program will continue at full capacity until the populations are removed.

3) *Staffing*. It is very clear that the existing team of 10 BAF field personnel is insufficient to meet the need for GII eradication on Qamea, Matagi, and Laucala. Based on knowledge of the area able to be surveyed on these three islands by the existing 10-person BAF team, it seems likely that an increase to 50 or more field staff will be needed to ensure comprehensive survey coverage on those islands and depress GII recruitment rates. That number is independent of the additional 8–10 staff needed for the survey and public-outreach program on Taveuni. This estimate of 40 additional staff on the infested islands should only be taken as an initial recommendation, and it may be that further staff would be needed should this initial increase prove insufficient to ensure daily surveys of all nesting areas and dense surveys of all forests. This question is very much open to reassessment and adaptive management as the effectiveness of the increased staff numbers is periodically reviewed. But it needs to be recognized immediately that current staffing levels are severely lower than those needed for eradication to be successfully achieved. BAF is currently in the process of increasing numbers of field staff.

4) *Data recording*. Recording and archiving of data on iguana take needs to be improved and records stored in a readily accessible centralized database. Currently, field sheets are filled out that provide information on location, date, size, sex, and number of eggs for collected iguanas. Additional information needs to be retrieved as well on habitat details such as elevation, slope, vertical location of the iguana perch site, plant species on which the iguana was perched, and dietary items, when they can be determined. Most important, there is currently no record of areas surveyed or on search frequency for each area. As a result, it is currently impossible to assess how effectively each island is being covered by field activities. Field staff needed to carry hand-held GPS units so that their daily search tracks can be downloaded and mapped to ensure complete survey coverage of each island and determine how frequently each area is surveyed. This will require coordination between field staff and one point of contact in the BAF central office so that the former may send search-track data to the latter to quickly be mapped and that mapped information can then be quickly returned to the field supervisor to inform weekly survey plans. The longer-term goal would be to have the capability to map these GPS tracks located among the BAF staff working on Qamea or Taveuni.

5) *Supplies/logistical support*. With increased staff numbers will come increased needs for supplies and logistical support. Many items can be mentioned, but the following are obvious needs: a central office on Qamea, solar panels or windmill to provide power for the office, rifles, hand-held GPS units, 1–2 boats with outboard engines, truck on Taveuni, dog kennels, several 2-man tents, camouflage shirts and shorts, binoculars, and transmitters. Logistical support must include GIS mapping support in the BAF central office (at least initially) and veterinary services for the trained dog teams. Training of the dog teams needed for tracking iguanas will involve considerable time and monetary expense, and this investment will need to be protected by kenneling the dogs, feeding them, and providing them regular veterinary care, including routine provision of medicines for common ailments, such as heartworm.

6) *Research to provide additional control tools*. It should be evident that few effective tools currently exist to control iguana numbers. Primary among these is hunting and the use of trained dog teams. And, given the remote location of the current iguana populations, reliance on hunting and searches with trained dogs will necessarily form the major components of any eradication program in Fiji. However, as mentioned above, randomized staff hunting is inefficient and must be improved by pursuing a variety of strategic and tactical innovations, such as enlisting the general population in iguana removal (without expecting a monetary reward), training underfed village dogs to take an interest in hunting iguanas for food, focusing efforts on nesting areas and territorial males, and using small-caliber rifles to increase staff effectiveness and efficiency. It would be valuable if additional control tools could be made available as well so as to improve the chances that all animals are liable to risk. This would, of course, require research to evaluate promising options. Some such research might be valuable, but only if it is focused on methods that can be realistically applied under the remote conditions in which control operations must occur. It is common for control or eradication projects directed at invasive species to suffer "research capture", a condition in which more and more resources become diverted to research on the species at the expense of actually removing it. Some research to develop additional control or survey tools will be desirable for GII, but it will be important to avoid diversion of resources to expensive research projects with little chance of providing realistic control opportunities on the ground. I already mentioned pheromone research as one example of such a high-risk research program. Others can easily be envisioned. Research options that might be pursued should be relatively inexpensive and easily performed on Qamea. Possible examples that might also be worth considering, if not too expensive, include deployment of cheaply made drones to survey for iguanas from above the canopy, surveillance of likely nesting areas with camera traps, or radio-tracking of adult male iguanas. Camera surveillance may allow for identification of nesting sites, radio-transmittered males may serve as Judas iguanas to betray nearby females. Radio-tracking of adult males and females would also be useful in providing a better picture of yearly movements and habitat use. Such projects may be suitable for Masters students from BAF, FNU and USP. Any such research supported by BAF should be designed to clearly answer whether a new control tool may result from the work or an existing tool can be made more effective. In no case should research projects be allowed to divert focus away from actual eradication activities.

Risks

Although the high risk of impact that the GII poses to Fiji's biodiversity, food security, and adaptability to climate change make eradication of that species from Fiji a desirable outcome, certain risks could thwart the ability to meet that goal. These need to be briefly reviewed to make clear how these limitations will be addressed in the eradication program.

1) *Iguana detectability is low*. The arboreal and shy nature of the GII makes detection of animals very difficult. As a result, it is yet unknown whether most animals can be placed at risk of removal. However, this problem may be overcome by two methods: (1) finding iguanas with systematic searches using canine teams trained to iguana scent, and (2) focusing removal efforts on those iguanas most directly responsible

for population recruitment and increase, primarily reproductive females, and, secondarily, juveniles. It will be critical for successful eradication to target and remove reproductive females and nests via concerted surveys of all likely nesting areas during the nesting season and by visiting male territories during the breeding season. This work will rely on both visual observations of iguanas by humans but especially upon the use of trained dogs to detect females and their nests in these areas. Comprehensive removal of a majority of nesting females each year is the only means to lower and then stop iguana recruitment and eventually achieve eradication. This effort will take many years, but trends in numbers of nesting iguanas taken every nesting season will allow for periodic assessment of program effectiveness. Outside of the nesting season, canine teams will search the forests following a grid pattern so as to detect and remove remaining iguanas. There is no other means of achieving GII eradication with the tools available for use now or likely to be available in the near future. Hence, having many trained dog teams is critical to the success of this approach.

It is rare for humans to locate juvenile iguanas in the thick vegetative tangles that they typically inhabit. However, training island dogs to develop an interest in hunting iguanas and recruiting them as free-roaming predators of GII will help depress recruitment rates. This will not stop recruitment of juveniles into the adult population, but slowing that rate, in concert with targeting nesting females for removal, is the most reasonable means to allow project staff to gain the upper hand on the high intrinsic rate of population growth in iguana populations on Qamea and surrounding islands.

Testing relatively inexpensive drones developed for conservation surveillance purposes (see https://conservationdrones.org/) may also allow for improved detection rates of iguanas otherwise hidden in the forest canopy. Testing can be done relatively quickly and cheaply, and if the method proves useful, this can be employed to improve removal rates of iguanas of both sexes throughout the non-nesting season.

2) *Capture rates for GII are low*. This problem will largely be overcome by changing from a strategy of iguana hand-capture to one of shooting. Combined with employment of improved detection capabilities (primarily through using trained dog teams, possibly including use of drones), this problem should become obsolete in short order.

3) *Iguanas may cross to Taveuni or other islands*. This threat is serious and can best be addressed by rapidly depressing population numbers along the western coast of Qamea and on Matagi. Iguanas on the eastern part of Qamea and on Laucala are unlikely to swim across the open channel to Taveuni because of its distance compared to habitat they can find in unoccupied forest on adjacent parts of Qamea. Furthermore, having an active surveillance program on eastern Taveuni and expanded public-awareness programs on that island to seek new iguana sightings should also help suppress any new iguana incursions that may occur. Nonetheless, to some extent, good luck must also be involved, particularly in the hope that large fish in the channel separating Qamea from Taveuni will take most iguanas that attempt the crossing.

4) *Eradication operations on Laucala will be sensitive*. It has historically been difficult to get reliable data on iguana numbers occurring on Laucala. Given the known sightings of several animals, the very short distance separating Qamea from Laucala, and the presence of GII along the adjoining shore of Qamea, a population of GII almost certainly inhabits Laucala. If true, the magnitude of control operations needed to eradicate GII from Laucala would likely be unpalatable to the managers of Laucala. Currently, BAF field staff have permission to work on the western end of the island, which is rarely visited by the island's guests. However, the prime nesting sites are on the well-used northern and eastern parts of the island. If a large increase in control activities should be required in future to meet eradication goals, it may be necessary for access arrangements to the island to be negotiated at a higher level of government. This is unlikely to be an important risk in the first year or two of the project but may become relevant later in the program.

Indicative outline for a community of practice on IAS management in Fiji

The community of practice will be developed to connect multiple IAS stakeholders, at different geographic scales, through a mix of learning and engagement formats, as set out below:

- Face-to-face meetings of IAS practitioners (focused in the four island area), including technical learning events/training, to identify and exchange best practices at a local level
- Creation of an IAS practitioners email network sharing project updates and information on IAS management (national)
- Quarterly stakeholder meetings (four island area, and national)
- Two-way information exchange with government technical specialists and decision-makers through FIIT (four island area), FIST and the national IAS task force (national)
- Coordination with projects across the Pacific to support regional learning and exchange of best practices (regional).

STAKEHOLDERS CONSULTED DURING PROJECT DEVELOPMENT

(iii

TYPE	STAKEHOLDER NAME
Government	Ministry of Economy, Public Enterprises, Public Services and Communication
	Biosecurity Authority of Fiji
	Ministry of Industry, Trade and Tourism
	Ministry of Agriculture
	Ministry of Fisheries and Forestry
	Ministry of *iTaukei* Affairs
	Ministry of Local Government, Housing and Environment
	Ministry of Health and Medical Services
	Ministry of Defense, Police and Military
	Fiji Revenue and Customs
	Department of Environment
	Department of Forestry
	Department of Strategic Planning (Ministry of Finance)
	GEF Operational Focal Point
	Airports Fiji Limited
Research sector	University of the South Pacific
	Fiji National University
CSOs	BirdLife International
	Conservation International
	National Trust of Fiji
	Island Conservation (post-submission of project for GEF CEO clearance; Palau, Feb 2017)
Private sector	Qamea Beach Resort
	Matagi Island Private Island Resort
	Laucala Island Resort
	Kala Eco Park
Communities	Various community representatives on Qamea and Taveuni
Other	US Department of State

Multi Year Work Plan

Outcome/Output	Activity	Responsibility	Resources/ Funding	Year 0	Year 1				Year 2				Year 3				Year 4				Year 5			
					Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Pre-planning phase																								
Constitution of Project Board		BAF and Ministry of Economy, Public Enterprise, Public Services and Communication	GoF	X																				
Restructuring of FIST		BAF and MOE	GoF	X																				
Initiation of process for hiring PIU staff (PC, POA, CTS),		BAF	GOF and GEF	X																				
Establishment of Special Account and Fund Flow Arrangements		Ministry of Economy, Public Enterprise, Public Services and Communication	GoF	X																				
Recruitment of additional eradication staff		BAF	GoF	X																				
Planning and Implementation Phase (National Activities)																								
Establishment of PIU	Recruitment of Project Coordinator, Project Administrative and Financial Assistant and Chief Technical Specialist	BAF (UNDP will provide advisory support)	GEF		X	X																		
	Provision of technical services by Project Coordinator, Project Administrative and Financial Assistant and Chief Technical Specialist	BAF (UNDP will provide advisory support)	GEF				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Functional national level, multi-agency, multi-sector IAS Committee codified in the national legislation	Multi-agency, multi-sectorial National IAS committee established and functional	BAF	GoF		X																			
Coordinated national and island level awareness programs	Recruitment of IAS awareness coordinator	BAF	GEF			X	X							X	X		X							
	Provision of technical services by IAS awareness coordinator	BAF	GEF			X	X																	
	Establishment of IAS committee for the national coordination body	BAF	GoF			X				X	X													
	Hiring of national level IAS awareness managers (to serve in localized areas) and field teams	BAF	GoF			X								X	X	X								
	Development of a national IAS awareness strategy	BAF	GEF			X								X	X	X	X	X	X	X	X	X	X	X
	Implementation of national IAS awareness strategy, including pre and post survey work	BAF	GoF				X	X																

Outcome	Activity	Responsible	Funding
National Invasive Species Framework and Strategic Action Plan (NISFSAP) completed and endorsed by National IAS committee	Desktop exercise to compile IAS information of Fiji	BAF and MOE	GEF
	Pathway and gap analysis for IAS	BAF and MOE	GEF
	NISFSAP completion	BAF and MOE	GEF
National Clearinghouse for IAS	Website developed and populated	BAF and MOE	GEF
	Website visitation and updating as needed	BAF and MOE	GoF
National IAS database completed, populated and publicly available	National IAS database developed and populated	BAF and MOE	GEF
	National database available and updated as needed	BAF and MOE	GoF
Improved Biosecurity capacity	Multi-year BAF strategic plan completed	BAF	GEF
	Comprehensive review of ports and biosecurity services, infrastructure and capacity	BAF	
	Comprehensive BAF database developed and populated	BAF	GEF
	BAF database in use	BAF	GoF
	Official (initial) blacklist established	BAF and partners	GEF
	Official (initial) whitelist established	BAF and partners	GEF
	Development of domestic air service biosecurity	BAF, AFL	GoF
	Enhancement of goods, vectors and passengers inspected	BAF	GoF
	Pursuant of detector dog program	BAF and partners	GoF
	Enhancement of utilization of X-ray machines for inspection (training)	BAF, AFL	GoF
	Cargo inspection area at Nadi international airport with improved X-ray facilities	BAF, AFL	GoF
	2 Full-time BAF staff at Danauru Port	BAF	GoF
	Random biosecurity inspections instituted at cargo and passengers at international seaports	BAF	GoF
	Enclosed quarantine areas in all major ports of entry	BAF, Ports Authorities	GoF
	Procedures for risk assessment for all organisms proposed for import established	BAF	GoF
	60% risk assessment for all organisms proposed for import	BAF	GoF
	100% risk assessment for all organisms proposed for import	BAF	GoF

Output	Activity	Responsible	Funding	Timeline
Improving Biosecurity training and skills	Development of training plan (to be part of BAF overall strategy)	BAF and partners	GEF	
	Implementation of training program	BAF and partners	GEF	
Developed economic assessment of IAS	Economic Assessment Report	BAF	GEF	
Develop national-level Early Detection and Rapid Response (EDRR) program trialed for Viti Levu	EDRR plan for Viti Levu	BAF and FIST	GEF	
	National reporting hotline	BAF	GEF	
	Awareness campaigning to support early detection and reporting	BAF	GEF	
	Training of EDRR team members (should be an on-going process)	BAF	GEF	
	Resources to support EDRR in place	BAF	GoF	

Planning and Implementation for Four Islands Activities

Output	Activity	Responsible	Funding	Timeline
Improved coordination of IAS and biosecurity activities within the four island area	Functional multi-sectoral Four island IAS Taskforce (FIIT)	BAF, DOE and other stakeholders	GoF	
International Reptile Eradication Specialist	Recruitment	BAF (UNDP will provide advisory support)	GEF	
	Provision of Technical Services	BAF (UNDP will provide advisory support)	GEF	
National Eradication Field Coordinators	Recruitment	BAF (UNDP will provide advisory support)	GEF	
	Provision of Technical Services at Qamea	BAF (UNDP will provide advisory support)	GEF	
	Survey of GII presence on Taveuni	BAF	GEF	
Collated database for IAS on four islands	Development of four island IAS database	BAF and Taskforce partners	GEF	
	Database available and maintained	BAF and Taskforce partners	GEF	
Black- and White- list of IAS for four islands	Black- and White-lists for islands established	BAF and Taskforce partners	GoF	
Improved biosecurity Inspections on four islands	Biosecurity inspections of Laucala island cargo ship at arrival and departure to Suva	BAF and Laucala Island management	GoF	
	Biosecurity inspections of airplanes transmitting Laucala island	BAF and Laucala Island management		
	Biosecurity for passenger ferry between Qamea and Laucala	BAF and Laucala Island management		
	Veterinary services established in Taveuni	BAF		
	Domestic air service inspections for flights to and from Taveuni	BAF and AFL		
	Random biosecurity inspections for cargo and passengers	BAF		

Category	Activity	Party	Funding
	Additional 2 full-time inspectors at Taveuni for inspection	BAF	
	Part-time biosecurity officers (3) to for inspections of boats transmitting between Taveuni and islets	BAF	
	Over 50% of goods and persons arriving at islands inspected	BAF	
	Vehicle sanitation facilities	BAF	
	Holding/quarantine facilities for arriving plants and animals in Taveuni	BAF	
Salia Jetty Inspection Services	Quarantine and treatment areas established	BAF and Jetty Management	
	Incinerator facilities established	BAF	
IAS awareness campaign for the four island biosecurity area	Development of outreach plan for four islands	Four island IAS taskforce, national IAS awareness sub-committee and National IAS Awareness Coordinator	GEF
	Recruitment of Outreach field teams (including managers)	Four island IAS taskforce, national IAS awareness sub-committee and National IAS Awareness Coordinator	GoF
	Development of outreach materials	Four island IAS taskforce, national IAS awareness sub-committee and National IAS Awareness Coordinator	GEF
	Conduct of awareness campaign, including pre and post surveys	Four island IAS taskforce, national IAS awareness sub-committee and National IAS Awareness Coordinator	GoF and GEF
Eradication of GII from Qamea, Matagi and Laucala	Preparation of eradication plan	BAF	GEF
	Training of BAF staff on tracking GII and use of firearms	BAF	GEF
	Training of dog teams and follow up	BAF	GEF
	Monitoring of native banded iguana	BAF	GEF
	Assessment of community perceptions of GII damage	BAF	GEF
	Eradication operations	BAF	GoF and GEF

TERMS of REFERENCE FOR KEY PROJECT STAFF, CONSULTANTS AND CONTRACTORS

The following are indicative TORs for staff, consultants and contractual servies to be recruited under the project. TORs for these positions will be further discussed and agreed between BAF and UNDP so that roles and responsibilities and UNDP-GEF reporting procedures are clearly defined and understood.

1. PROJECT COORDINATOR (NATIONAL)

The Project Coordinator (PC) will work under the guidance of the Project Board and look after day to day management of Project Implementation Unit (PIU), its staff and consultants; including technical aspects, work planning, progress reporting, monitoring and quality control of project inputs and delivery of its outputs. Duration of the assignment is 48 months.

Scope of Work
The PC will be responsible for the following technical management and coordination activities:
- Manage, coordinate and monitor all technical aspects of the project, within the agreed budget, to achieve the expected outputs in consultation with BAF/MEPEPSC
- Provide vision and technical leadership to ensure day-to-day functioning of the project team to accomplish project success by facilitating the development of approaches, options, and optimal solutions
- Manage technical consultants and their performance in consultation with BAF/MEPEPSC and supervise project administrative staff
- Coordinate consultations with stakeholders under the guidance of the BAF/MEPEPSC
- Coordinate and oversee the delivery of the project outputs
- Under the guidance of the BAF/MEPEPSC, convene and coordinate meetings of the Project Board and provide necessary updates
- Manage requests for the provision of financial resources by UNDP, using advance of funds, direct payments, or reimbursement using the FACE (Fund Authorization and Certificate of Expenditure)
- Manage and monitor the project risks initially identified, submit new risks to BAF/MEPEPSC and UNDP for consideration and decision on possible actions, and if required provide updates on the status of these risks
- Be responsible for managing issues and requests for change by maintaining an Issues Log
- Update the ATLAS project management module if external access is made available by UNDP
- Manage working relationships with all co-financing partners to ensure that their technical activities/programs are integrated and complementary with those of related projects
- Ensure that support is provided to Government and UNDP in organizing Project Board and FIST meetings and other relevant events/meetings.

Project Planning

- Prepare, in consultation with the BAF/MEPEPSC and with advice from UNDP, draft Terms of Reference for contractual services, consultants, experts, and specifications of materials as required by the project

- Prepare detailed technical work plan and budget to ensure that activities meet the objectives of the project, in consultation with the BAF/MEPEPSC
- Review and approve project deliverables and technical outputs as defined in the project document and based on specific project specifications
- Organize consultation meetings and proceedings
- Manage and monitor the project risks initially identified submit new risks to the Project Board for consideration and decision on possible actions if required; and update the status of these risks by maintaining the Project Risk Log.

Project Reporting and Monitoring

- Update and share financial and technical activities/output/outcome progress on a monthly basis with BAF/MEPEPSC and UNDP, highlighting key challenges/risks and proposed way forward if and when necessary
- Prepare and submit quarterly technical progress and financial reports, terminal reports, relevant monitoring & evaluation (M&E) reports as required by GEF and UNDP, as well as briefing reports as needed and as specified in the contractual arrangements
- Monitor carefully financial resources, technical outputs and accounting to ensure accuracy and reliability of financial reports
- Prepare and coordinate submission of Annual Project Review (APR)/Project Implementation Report (PIR) to UNDP-GEF.

Communication and Knowledge Management

- Strengthen engagement and information-sharing with key project stakeholders including other national and regional projects, other relevant projects such as R2R, government counterparts, project boards and committees, and beneficiaries/communities
- Coordinate development of communication and awareness materials for the project to ensure visibility of the project achievements and good practices.

Expected Qualifications
- A bachelor degree in Environmental Management OR other environmental related field. (A postgraduate qualification in a relevant field would be an advantage).
- At least 3-7 years experiences in project management at a senior level; Experience in any environmental related project management would be an advantage
- Close familiarity with the roles, activities, and priorities of the Government of Fiji, and particularly the Biosecurity Authority of Fiji and its key partners, with regard to biosecurity related issues
- Experience in in project planning, budgeting, monitoring and evaluation
- Good leadership, coordination, communication and facilitation skills are essential
- Close familiarity with the operations and rules of UNDP is not a requirement but will be viewed with favor
- Ability to work with multi-disciplinary environment stakeholders including line government ministries and NGOs
- Strong management skills, including ability to supervise people and monitor project staff as well as being responsible, honest, with strong sense of integrity and professional ethics
- Demonstrate commitment to work and experience in working in a multicultural team environment, high level inter and intra-personal and communication skills

- Must be computer literate
- Must be able/fit to travel locally
- Good command of English.

2. PROJECT ADMINISTRATIVE/FINANCE OFFICER (NATIONAL)

The Project Administrative/Finance Officer (PAO) will work under the guidance of the PC and look after day-to-day administrative and financial management matters related to the project. He/she will support the PC in annual work planning, progress reporting, monitoring and financial control of project inputs and delivery of its outputs. The duration of the assignment is 48 months.

Scope of Work
The PAO will be responsible for the following administrative and financial tasks:
- General financial and administrative support to the project
- Assist project management in performing budget cycle: planning, preparation, revisions, and budget execution
- Provide assistance to partner agencies involved in project activities, performing and monitoring financial aspects to ensure compliance with budgeted costs in line with UNDP policies and procedures
- Monitor project expenditures, ensuring that no expenditure is incurred before it has been authorized
- Assist project team in drafting quarterly and yearly project progress reports concerning financial issues
- Ensure that UNDP procurement rules are followed during procurement activities that are carried out by the project and maintain responsibility for the inventory of the project assets
- Perform preparatory work for mandatory and general budget revisions, annual physical inventory and auditing, and assist external evaluators in fulfilling their mission
- Prepare all outputs in accordance with the UNDP administrative and financial office guidance
- Ensure the project utilizes the available financial resources in an efficient and transparent manner
- Ensure that all project financial activities are carried out on schedule and within budget to achieve the project outputs
- Perform all other financial related duties, upon request
- Provide assistance in the operational management of the project according to the project document and the NEX procedures
- Provide support in preparing project events, including workshops, meetings (monthly, quarterly and annual), study tours, trainings, etc., as required
- Take care of project telephone, fax, and email system
- Assist with preparation of TORs and contracts for consultants for project activities
- Prepare quarterly advance requests to get advance funds from UNDP in the format applicable
- Support to organize meetings, workshops/training as required in the project quarter work plan, as per requested by the project coordinator/manager
- Keep track of project documents and regularly report to PIU
- Other tasks as requested by the PIU.

Expected Qualifications

- A Bachelors degree in accounting
- A minimum of 2 year experience in demonstrated administrative functions
- Be fully computer literate with Microsoft Office Programs
- Experience in providing a streamlined administrative service role to a project management team
- Familiar with administrative functions
- Demonstrated initiative in carrying out his/her duties and ability to work independently to tight deadlines
- Ability to operate standard office equipment and familiarity with principles of accounting and office practice are essential
- Good computer skills in common word processing (MS Word), spreadsheet (MS Excel), and accounting software
- Appropriate English language skills, both spoken and written.

3. CHIEF TECHNICAL SPECIALIST (INTERNATIONAL)

An international expert will be hired as a Chief Technical Specialist (CTS) to provide technical support and coordination on Invasive Alien Species (IAS) management issues, especially on pathway analysis of IAS, risk assessment, prevention and quarantine. The expert will have knowledge and experience across the range of IAS management strategies, particularly Prevention/restriction; inspection and quarantine and provide guidance and strategy on IAS assessment, management and prevention to the project team, the lead agency (Biosecurity Authority of Fiji) and an extensive array of other stakeholders at national, regional, island and community levels. The Expert will work alongside the Project Coordinator and ensure that the project and project tasks are on and remain on task throughout the duration of the project period. The duration of the assignment is for 48 months.

Scope of Work
- Give guidance and inputs and provide necessary top level coordination for the Fiji IAS Project, including all components, namely: (1) strengthened IAS policy, institutions and coordination at the national level, (2) improved IAS prevention and quarantine at the island level trialed for Taveuni, Qamea, Matagi and Laucala, (3) eradication of GII and (4) strengthened IAS knowledge management, monitoring and evaluation
- Work closely with other members of the PIU, the Biosecurity Authority of Fiji (BAF), the national coordination body, UNDP, component/project tasks managers and consultants, national and island level taskforce and working groups and various other stakeholders
- Conduct a tabletop exercise to develop an up to date report on IAS information for the country within six months of project commencement
- Development of the Fiji National Invasive Species Framework and Strategic Action Plan (NISFSAP) including pathways and risks analyses within nine months of completion of the IAS information report. The NISFSAP will be developed through extensive stakeholder consultation and the final product to be endorsed by the national IAS coordination body
- Conduct a review of all international ports and major domestic ports to provide biosecurity recommendations. Review of these ports and the associated recommendations report should be completed no later than the end of project year two
- Give guidance and inputs to the BAF on the development of a multi-year strategy

- Develop a national EDRR strategy to be trialed on Viti Levu. Work on this strategy should begin on completion of the NISFSAP and be finalized within nine months. Components of the EDRR strategy should start coming online after completion of the strategy. This EDRR strategy is to be developed with stakeholder input and review
- Support improved training opportunities for IAS stakeholders at both the national and island levels, including providing EDRR training on Viti Levu (minimally one workshop each for project years 3 and 4)
- Support IAS awareness build activities at national and island levels including planning and oversight, materials and processes development and field operations
- Facilitate and guide the economic assessment study of IAS damage, monitoring of native branded iguana and community perception study
- Provide technical support and assistance to the GII eradication efforts including planning and oversight, logistics and coordination support and field operations including search, detection, acquisition and final disposition of organisms as well as the ability to support a large field effort including detection canine handling/training experience
- Travel throughout the country in support of the project, which may include extensive time on the ground in the four island biosecurity area of Taveuni, Qamea, Matagi and Laucala
- Support oversight, coordination and field operations and be able to spend extended periods in the field in remote settings involved in biosecurity tasks including IAS eradication efforts and outreach/awareness building
- Support development/integration of a national IAS coordination body and associated supporting IAS specialist committee/taskforce
- Support development/integration of a district (or sub-district) IAS taskforce for Taveuni, Qamea, Matagi and Laucala islands
- Participate in technical meetings and workshops to reach agreement on project outcomes and activities and provide relevant expertise on IAS management to these discussions and to track project progress and effectiveness
- Provide support and guidance with addressing project recommendations.

Expected Qualifications
- Master's or equivalent degree in natural or environmental sciences, conservation and/ or other related expertise areas
- At least seven years relevant professional experience in biosecurity and addressing Invasive Alien Species. Ideally, the expert will have knowledge and experience across the range of IAS assessment and management strategies, especially prevention (restriction; inspection; quarantine)
- Experience working with government institutions, as well as, civil society/private organizations and consultants/field biologists
- At least five years experience working with a wide array of stakeholders on biosecurity issues in the Pacific region
- Experience working with relevant stakeholders in Fiji, will be considered as an advantage
- Experience developing National Invasive Species Strategies and/or similar documents at a national or regional level preferably in the Pacific region
- Demonstrable experience in developing early detection and rapid response strategies and capacity preferably in the Pacific region

- Experience managing complex multi-year biosecurity or IAS projects
- Experience with invasive herpetiles
- Experience working with detector canine teams in remote field situations in the Pacific region (preferred experience with training/handling detector dogs)
- Experience in undertaking consultancies
- Ability to oversee and manage as part of a small management team, an extensive, multi-year project
- Ability to move forward with tasks including field operations independently and with little to no oversight
- Excellent ability to translate idea/concepts visually and/or orally
- Good communications abilities
- Ability to meet deadlines and prioritize multiple tasks
- Ability to travel throughout Fiji, especially to and from Suva and the four island biosecurity area
- Ability to spend extended periods of time in the four island biosecurity area as well as possibly other locations within Fiji
- Excellent writing, editing, and oral communication skills in English.

4. REPTILE ERADICATION EXPERT (INTERNATIONAL)

The International Reptile Eradication Expert will serve as the project's leading expert on assessing and recommending methods and strategies for removing the GII from Fiji. In direct consultation with Biosecurity Authority of Fiji, and with the assistance of various national and international consultants, the International Reptile Eradication Expert will guide the project activities related to eradicating GII from Fiji, as elaborated in the Project Document, and will be responsible for timely and complete fulfillment of the related outputs. The consultancy will be for a total of 11 months spread over the period of the project.

Scope of Work
- Development, in consultation with various national stakeholders and international consultants, an eradication plan for the GII and sharing of that plan with interested stakeholders through informational workshops
- Guiding and providing oversight for the planning, implementation and monitoring of GII eradication activities of the project
- Providing training on implementation eradication strategy, application of relevant techniques and tools, monitoring of eradication impacts and outcomes, etc
- Participation in design, oversight, and quality control for the implementation of eradication activities, including regular site visits
- Oversight of the technical content and design parameters of all project activity related to eradication activities
- Regular assessment of effectiveness of eradication program, provision of recommendations for corrective actions, revision of strategic approaches, as appropriate and overall responsible for defining the efficacy of the eradication strategy
- Frequent communication with project partners and interested stakeholders to ensure mutual support, coordination, and timely fulfilment of all steps needed to complete activities for eradication activities
- Oversight of regular data collection and analysis to disseminate the results of the project and to verify that project activities are progressing toward identified eradication goals.

Expected Qualifications
- Advanced university degree in organismal or ecological biology
- Technical expertise in invasive-species biology, particularly with respect to reptiles
- At least 10 years of working experience on invasive reptiles, including some previous experience working with UNDP or other international agencies
- Detailed technical understanding of eradication requirements and methods
- At least 5 years working experience in the tropical Pacific
- Demonstrated ability to deliver complex field and planning programs
- Demonstrated ability to be able to guide and motivate field teams
- Strong networks with the international eradication community
- Demonstrated ability to meet deadlines
- Strong writing and speaking abilities
- Fluency in reading, writing, and speaking English.

5. ERADICATION FIELD COORDINATORS (NATIONAL)

The Eradication Field Coordinators (4 positions) (EFCs) will serve as the project's leading field managers to ensure effective implementation of methods and strategies for removing the Giant Invasive Iguana (GII) from Fiji. Under supervision from the Project's Chief Technical Specialist and Reptile Eradication Expert, and in collaboration with Biosecurity Authority of Fiji and other stakeholders, the Eradication Field Coordinators will oversee implementation of project activities related to eradicating GII from Fiji, as elaborated in the Project Document, and will be responsible for timely solving of problems as they arise in meeting this goal. Contracts are for 48 months and based in the four-island site.

Scope of Work
- Supervision of field staff in meeting GII eradication goals, including delivery of operations to a high standard established in consultation with Biosecurity Authority of Fiji and the Project's International Reptile Eradication Expert
- Guaranteeing effective and safe incorporation and application of identified GII eradication methods and strategy in activities by field staff
- Overseeing training of field staff in eradication methods
- Building field staff capacity
- Setting work schedules and mapping of work areas to ensure complete areal coverage of eradication activities
- Guaranteeing regular data collection for analysis to determine population estimations by the Project's Reptile Eradication Expert.
- Regular reporting of activities, progress, data, and problems to International Reptile Eradication Expert
- Managing feedback from program reviews with International Reptile Eradication Expert
- Ensuring that research activities are coordinated with eradication activities so as not to hinder eradication efforts
- Participate in assessing new methods to detect or remove iguanas
- Participate and manage the monitoring of native branded iguana work

- Frequent communication with project partners and interested stakeholders to ensure mutual support, coordination, and timely fulfilment of all steps needed to complete activities for eradication activities.

Expected Qualifications

- Have an understanding of eradication requirements and methods
- At least 2 years of field experience with invasive species eradication operations
- Field experience tracking radio-collared animals, an advantage
- Experience mapping GPS survey tracks
- Demonstrated ability to work effectively both independently and collaboratively
- Demonstrated ability to meet deadlines
- Experience working among Pacific cultures
- Field experience with iguanas or other reptiles, an advantage.

6. LEGAL EXPERT (INTERNATIONAL)

The Legal Expert (international) will provide specialist and expert advice for the scoping and drafting of national invasive species legislation and biosecurity regulations for Fiji. Under supervision from the Project Coordinator, and in in collaboration with Biosecurity Authority of Fiji and other stakeholders, the Legal Expert will be responsible for the review of existing IAS and biosecurity legislation to inform the development of the National Invasive Species Framework and Strategic Action Plan (NISFSAP; Output 1.2), and the drafting of IAS and biosecurity legislation based on the specific requirements identified in the NISFSAP. The expert will also support the development of the BAF long-term strategy as it relates to legislative needs and mandates. The contract is for 8 months (spread over years 1 and 2) with overlap with the development of the NISFSAP and BAF long-term strategy.

Scope of Work

- Meet with key stakeholders to understand roles and objectives in regards to IAS and biosecurity, review existing IAS and biosecurity legislation and related legislation for Fiji, ensure familiarity with other Pacific Islands IAS and biosecurity legislation, ensure familiarity with legislative processes within Fiji
- Support NISFSAP development process, specifically the review of existing supportive legislation and framework development for additional legislative needs to support anticipated improvements to biosecurity including IAS control and management
- Support development of the BAF strategy, specifically the review of existing legislation and developing specific details for legislative needs to improve BAF overall functionality and biosecurity for the nation
- Work with in-country legal expertise to develop specific details (including regulations) and processes for legislative needs identified in the NISFSAP and BAF strategy and ensure that these addressing these needs in moving forward within the overall legislative processes of Fiji. Regular reporting of activities, progress, data, and problems to International Reptile Eradication Expert.

Expected Qualifications

- 5 plus years of international experience with supporting legislative developmental processes to support improved functionality of key governmental functions (international law)
- Experience supporting SIDS legislative processes
- Experience supporting the protection of natural resources with specific experience with either biosecurity or IAS an advantage
- Experience working in the Pacific an advantage
- Understanding of the parliamentarian legislative processes.

SHORT-TERM CONSULTANCIES AND CONTRACTUAL SERVICES

The implementation of the project will also require additional short-term specialized consultancy and contractual services that are defined in Table 5.1.

Table 5.1: Short-term consultant support

Consultant Position	Major Output	Duration in months	Brief scope of work	Required Qualifications
7. IAS Website Development Specialist (international)	National IAS Clearing-house mechanism (Output 4.2) Information from the desktop exercise can be used to populate this clearing-house. It is worth noting that a Fiji biodiversity clearing house website is currently available (Fiji Department of the Environment or DOE) but content is limited: https://chmfiji.wordpress.com/)	2 (Year 1)	-Develop an on-line IAS clearing-house for Fiji -Populate the on-line IAS clearing house -On-line clearing house is up and running within six months of start of the consultancy -Train and capacitate local technicians to maintain and update IAS clearing house on a regular basis as needed -Consider partnering with Ministry of Environment which has established a biodiversity clearing house for Fiji (may be feasible to combine biodiversity and IAS clearing houses into one entity or minimally link if they are 2 separate entities)	-3+ years experience with website development and troubleshooting -3+ years experience with website population -Previous work in field of natural resources preferably with conservation topics including invasive alien species and/or biosecurity
8. IAS Database Specialist (International)	Collated database (Output 2.1) of information on the IAS present on Taveuni, Qamea, Matagi and Laucala islands A single database would be developed regarding IAS present on these four islands. The database should be specific to	3 (Year 1)	-Develop IAS database for the four island biosecurity area of Taveuni, Qamea, Matagi and Laucala islands -Listing known/established IAS on each island, ranges, population densities (as known), impacts and past	-Experience developing multi-user/stakeholder databases -Experience working with stakeholders in the Pacific region, preferably within Fiji

			and current management action details -Develop multi-stakeholder IAS database, including determination of scope and stakeholder access levels -Conduct stakeholder consultations/workshops to support determination of what data/data sources to include in the database and which offices/agencies/ministries will be involved -Determine how existing information that is current held by numerous offices, agencies, ministries and NGOs can be gathered and entered into the database -Develop data entry protocols -Support entry of initial data -Ensure stakeholder access to database -Train staff to maintain database, enter data and analysis/produce outputs -Database to serve as an example for similar national level database	-Some background knowledge of natural resources and preferably of invasive alien species and/or biosecurity
each island, listing known established IAS for each island including relative ranges and population sizes. Information on known impacts of each species as well as of attempted or on-going management actions would also be detailed. This database would not be specific to any one group, agency, department or NGO but instead needs to be a multi-party database that can be accessed and utilized by all key stakeholders involved in IAS prevent and management. Database should be developed and populated by 2018. Once this database is developed and populated, it can serve as a roadmap for developing a similar national level IAS database for all of Fiji.				
9. Multi-use Database Specialist 1 (International)	BAF Specific Database (Output 1.2) BAF is currently in the process of developing a database and needs support in this process. This would be a database that is specific to BAF and which provides the necessary outputs required by BAF. Database would minimally include detailed information on risk assessments conducted, monitoring activities, early detections, response actions, interceptions, quarantine situations, dispositions of materials, etc.	3 (Year 1)	-Consult with BAF leadership and other staff to determine database needs and current status of the BAF database in development -Work with BAF staff to determine specific input requirements and output needs for the BAF database -Work with BAF staff to develop database and populate with existing data -Develop data entry protocols -Ensure that BAF staff are trained in data entry, database management and output development	-Experience developing multi-user databases -Experience working with stakeholders in the Pacific region, preferably within Fiji -Some background knowledge of natural resources and preferably of invasive alien species and/or biosecurity
10. Multi-use Database	National IAS Database (Output 4.3) (consultancy could be	4 (Year 2)	-Develop multi-stakeholder IAS database, including	-Experience developing multi-

Specialist 2 (International)	combined with above-assignment for development of BAF database)

The national database will take the lessons learned from developing the four-island area database and implement them on a national level. This database will support IAS prevention and management across multi-sectorial efforts and allow both managers and policy makers to better understand IAS and improve development and implementation of regulations, policy and field actions throughout the country to address IAS concerns by complying both existing and new IAS information for the nation into one database that policy makers and managers can readily access. The envisioned database would be a multi-level design with end users at all levels of the spectrum, including scientist, biosecurity officers, natural resource managers, policy makers and the general public. Access to the database will be determined and it may be necessary to have a multi-level database with access to some areas and/or information restricted to specific offices/agencies while other areas may be open to multiple agencies/working groups and still others may be open for general public access | | determination of scope and stakeholder access levels
-Conduct stakeholder consultations/workshops to support determination of what data/data sources to include in the database and which offices/agencies/ ministries will be involved
-Determine how existing information that is current held by numerous offices, agencies, ministries and NGOs can be gathered and entered into the database
-Develop data entry protocols
-Support entry of initial data
-Ensure stakeholder access to database
-Train staff to maintain database, enter data and analysis/produce outputs | user/stakeholder databases
-Experience working with stakeholders in the Pacific region, preferably within Fiji
-Some background knowledge of natural resources and preferably of invasive alien species and/or biosecurity |
| 11. IAS Outreach Planning Specialist (International) | Four-island IAS Outreach Strategy and Plan (Year 1) and National IAS Outreach Strategy and Plan (Year 3) (Output 3.5 and 4.1)

Outreach efforts planned and run for multiple years. Pre-planning would include extensive surveys carried out across the four islands to better | 8 months (4 months each in Year 1 and 3) | -Conduct multi-stakeholder planning at the island and national levels
-Work extensively with various office/ministries at the island and national level including BAF, Ministry of the Environment, *iTaukei* Affairs and the Ministry of Education | -Three plus years of experience with natural resource and IAS awareness program development and facilitation within the Pacific region
-Experience working with multiple stakeholders and |

	determine current levels of IAS understanding and support for prevention and management efforts, before development of strategy and plan. Outreach supported by awareness councils established under the national IAS coordination body and within the four-island biosecurity area IAS working group. Project should wrap up with post activities surveys across the four islands to gage success/change in understanding, attitudes and engagement in regards to IAS and IAS prevention and management. National outreach strategy and plan in Year 3		-Develop a multi-year IAS awareness/outreach program for the four island biosecurity area with stakeholder support -Plan should engage stakeholders at all levels including residents, visitors, leadership and businesses -Provide technical input into all aspects of the awareness plan development and field actions including pre and post awareness surveys -Support field actions during years 1-4 of the project -Based on the four island biosecurity area IAS awareness plan and initial field work, support development of a national level IAS awareness plan during years three of the project and support initial actions at the national level during year four	sectors on multi-year projects -Experience working with IAS and/or biosecurity within the Pacific region -Ability to work with a wide variety of stakeholders at both island and national levels -Ability to support project planning and field efforts in the four island biosecurity area over an extended period of time
12. Economist (National)	Economic impact assessment (Output 1.4) of IAS on agriculture and forest on agricultural and forestry crops, health, livelihood and biodiversity including cost/benefits analysis of prevention measures currently utilized as well as additional tools for supporting improved management and impact reductions	8 months in Year 1	-Develop cost/benefit assessment of impacts and prevention/management/eradication measures for selected number of IAS (Including GII) -Develop methodology and frameworks of potential future IAS economic assessments and conduct training programs for local economist to undertake such assessments	Ten plus years of experience with economic assessment of environmental and natural resource impacts -Experience working with multiple stakeholders and sectors on multi-year projects -Experience working with IAS and/or biosecurity within the Pacific region -Ability to work with a wide variety of stakeholders at both island and national levels an advantage
13. Biologist (National)	Undertaking assessment of native branded iguana populations (Output 3.4) in selected locations in the four-islands to assess changes in	4 months in Year 1 and 2 months in Year 5	-Design methodological framework for monitoring branded iguana populations.	Ten plus years of experience with native species surveys

			populations over time as time sensitive impact of GIIs		- Establish suitable plots in areas already know to be occupied by GII -Train local eradication staff and community evaluators to identify and record native iguana sightings assessment of -Undertake survey and assessment of native iguana populations in these selected locations -In Year 4 reassess native iguana populations in research plots to identify any changes in populations	

14. Social Expert (National)	Undertaking assessment of community perceptions of impacts on food crops and livelihoods by GII (Output 3.5)	2 months each in Year 1 and 5	-Develop questionnaire to assess community perceptions of GII impact on food crops and livelihoods -Undertake surveys to assess community perceptions in selected villages where GII present -Follow up assessment in Year to ascertain any change of community perceptions	-Ten plus years of experience with social assessment at the community level -Experience in conduct of perception surveys in Fiji -Good knowledge of situation in the four-islands
15. Dog Trainer (International)	Training of dog and dog teams for GII eradication (Output 3.3)	8 months spread over 4 years	-Select suitable local dogs to train -Select suitable dog handlers from among the local population -Train handlers and dogs for obedience -Train dogs on picking up Iguana scent -Regular follow-up to evaluate training effectiveness on dogs and handlers -Repeat in Year 2 for second batch of dogs and dog handlers	-Experience dog and dog team trainer for IAS eradication -Willingness to work under field conditions
16. Hunting trainers (International)	Training eradication teams on hunting and killing using air rifles/small firearms (Output 3.3)	5 months (2 months in Year 1 and one month each in Years 2, 3 and 4)	-Evaluate aptitude and fitness of eradication team members to locate GII -Test marksmanship abilities of eradication team members in the field -Evaluate skills, aptitude and ability of eradication	-Experience with eradication hunting -Ability to train others

team members to work
together as a team
-Evaluate interpersonal
skills and ability to follow
orders
-Identify hunter team and
train them to spot and hunt
GIIs, including development
of special homing skills

Monitoring Plan

The Project Coordinator and Chief Technical Specialist will collect results data according to the following monitoring plan.

Monitoring	Indicators	Description	Data sources/Collection Methods	Frequency	Responsible for data collection	Means of verification	Risks and Assumptions
Project objective To improve the chances of the long-term survival of terrestrial endemic and threatened species on Taveuni Island, surrounding islets and throughout Fiji by building national and local capacity to manage Invasive Alien Species	**Indicator 0.1:** Extent to which legal or policy or institutional frameworks are in place for conservation, sustainable use, and access and benefit sharing of natural resources, biodiversity and ecosystems. *(UNDP mandatory indicator: IRRF Output 2.5 indicator 2.5.1)*	NISFSAP endorsed by national IAS Committee with committed resources for implementation BAF long-term strategy adopted and under implementation Specific legislation and regulations for IAS adopted and in place	Consultations with MOE, BAF, FIST and National IAS committee members	Mid-term and end-of-project	Project Implementing Unit (PIU) and FIST, UNDP supervision, DoE	Desktop exercise on baseline Fiji IAS Pathway analysis Gap Analysis NISFSAP BAF Strategy	Assumptions - Relevant agencies are willing to cooperate fully - Cabinet support for adopting legislative reforms required
	Indicator 0.2: Number of direct project beneficiaries *(UNDP mandatory indicator)*	At least 270[10] BAF and other relevant government staff engaged in training and awareness activities (40% of which are women) At least 800[11] local people in four islands area are engaged in project activities (40% of which are women)	Consultations with front-line and other staff of BAF and partner agencies, and local communities, tour operators, resort owners, importers, tourists and shipping agents on the four islands	Annually	Project Implementing Unit (PIU)	Training records Attitudinal survey records -Employment records -IAS prevention and control operation records in four islands	Assumptions - Continuing level of political will to support the project interventions -Local communities, tour operators, resort owners, importers and shipping agents recognize the benefits of IAS prevention and control

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[10] Includes 200 national BAF and partner agency staff, 20 BAF and partner staff in Taveuni and three islets and 50 staff trained specifically for the eradication work in Outcome 3

[11] Includes (i) 50 local villages directly hired for the eradication work, (ii) estimated 600 community members actively engaged in volunteering sightings of GII and hence benefit from their eradication, (iii) and estimated 150 tour operators, resort owners, importers, tourists and shipping agents directly participating in IAS prevention and control

	Indicator 0.3: Comprehensiveness of national level IAS management framework and ability to prevent IAS of high risk to biodiversity from entering Fiji, as measured by IAS Tracking Tool	An increase score of at least to 12 (from baseline of 4) in IAS Tracking Tool with national coordinating mechanism overseeing IAS actions codified by law; IAS strategy under implementation: regulations in place to implement National IAS strategy; priority pathways actively managed; detection surveys conducted regularly, etc.	Consultations with BAF, government biosecurity entities, travelling public, tour operators, local communities and other stakeholders	Mid-term and end-of-project	Project Implementing Unit (PIU) and UNDP supervision	GEF Tracking Tool applied at PPG, MTR and TE	Risks: -Relevant agencies may not be willing to cooperate fully Assumptions: -Willingness within the GoF to commit funding/resources to the management of IAS that impact biodiversity -Improved BAF revenue generation -National and international macroeconomic conditions remain stable.
	Indicator 0.4: Level of government funding and revenues for Biosecurity in Fiji	At least 20% increase in GoF budget allocation (from USD 4.5 to USD 5.4 million) and revenues (from USD 4.0 to USD 4.8 million)	Consultations with BAF, Ministry of Economy, Public Enterprises, Public Services and Communications (MEPEPSC) and Ministry of Finance	Annually	Project Implementing Unit (PIU) and UNDP supervision	Government agency budget plans and expenditure reports	
Outcome 1 Strengthened IAS policy, institutions and coordination at the national level to reduce the risk of IAS entering Fiji	**Indicator 1.1:** National and local capacity in detection, prevention and control of entry of high risk IAS, as measured by UNDP Capacity Development Scorecard	Increase in UNDP Capacity Development Score for BAF by 50% from baseline of 14 to at least 21	Consultations with BAF, Ministry of Environment and members national IAS committee	Annually	Project Implementing Unit (PIU) and UNDP supervision, DoE	National legislation supporting the development of IAS committee. Group meeting minutes and annual reports of activities. Completed MOUs between relevant institutions defining roles	Risks -Some agencies and/or sectors may have difficulty coordinating with other agencies and/or sectors Assumption - Sufficient political interest for action on IAS -Willingness of institutions to share responsibilities

Indicator 1.2: Operational status of national level, multi-agency, multi-sector coordinating group for IAS activities, including biosecurity and management	Multi-agency, multi-sectorial coordinating group established, codified by national legislation, and functioning effectively	Consultations with MOE, BAF, FIST and National IAS committee members	Annually	FIST, UNDP supervision, DoE	Legislation proclaiming establishment of coordinating groups	
					Minutes of meetings	
Indicator 1.3: Extent of biosecurity capacity for comprehensive prevention, early detection and rapid response	100% risk assessments for all organisms for import and systematically documented	Consultations with BAF staff and importers	Annually	Project Implementing Unit (PIU)	BAF inspection disposition, and procurement records.	Risk
						-Adequate resources to implement comprehensive inspection and quarantine coverage may not be developed
					BAF database of (i) inceptions; (ii) sightings from the public; (iii) EDRR responses; and (iv) outreach activities	-Sufficient trained and committed personnel unavailable to provide adequate coverage
						-Insufficient rapid-response resources and funding available to support EDRR activities
						-Differences between daily operations and rapid-response actions are not fully recognized and/or supported
	Established EDRR capacity on Viti Levu serving as a national pilot and resources to support EDRR in place	Consultations with Viti Levu BAF and partner staff, public responders, FIST members, etc.				Assumptions
						-Additional revenues can be developed to support inspection and quarantine services throughout the country
						-Adequate laws and regulations are in place to support improved inspection and quarantine services national wide and EDRR actions

- Local actors understand the role of IAS management in reducing social vulnerability.

-Buy-in at all levels of society, including timely reporting of novel species encounters

| Outcome 2: Enhanced IAS prevention and surveillance operations to prevent new introductions on Taveuni, Qamea, Laucala and Matagi | Indicator 2.1: Number of new establishments of IAS species on Taveuni and islets, covering species listed in the Fiji black list and well as any high-risk IAS present in Fiji but not Taveuni | No new establishments on Taveuni and surrounding islets (based on baseline black lists) | Consultation with FIST and Northern Region IAS Taskforce members, researchers, local communities etc. | Annually | Project Implementing Unit (PIU) and Northern Region IAS Taskforce | Database Black-list Extension materials Survey records | Risks -Means of ensuring public access to the data on black list and white list are uncertain Assumptions -Baseline surveys of IAS can be rapidly completed -Adequate monitoring of IAS |
| | Indicator 2.2: Capacity and engagement of biosecurity personnel and partners for inspection, control and management to prevent entry and inter-island IAS spread and partners for inspection, control and management to prevent inter-island IAS spread | 100% of frontline staff (around 20 biosecurity, police, customs staff etc., of which 40% are women) trained and undertaking random inspections of passengers and goods at passengers and goods at airports and cargo ports At least 50% of goods, persons and vectors (transport vehicles) arriving at islands are subject to biosecurity inspections | Consultations with front-line and other staff of BAF and partner agencies Consultation with Four-island IAS Taskforce (FIIT) members and travellers and goods importers | Annually | Project Implementing Unit (PIU) | Training records Attitudinal survey records Staff employment records Training reports BAF inspection, disposition and procurement records | Risks -Taxonomic expertise for some IAS groups may not be readily available -Market-driven changes to pathways and vectors can not be fully anticipated -Changes in invasiveness of species driven by climate change and other external factors can not be fully anticipated Establishment of new high-risk IAS within trade-partner countries can not be fully anticipated The invasiveness of many species is simply unknown, making it difficult to determine |

							exactly which species training should focus on.
Outcome 3: Long-term measures for protection of terrestrial ecosystems and their biodiversity from GII on Taveuni, Qamea, Laucala and Matagi	**Indicator 3.1:** Status of GIIs seen/captured on Taveuni	No GIIs seen/captured on Taveuni during last year of project	Consultations with Four Island IAS Taskforce (FIIT) members BAF and local communities, search-history records; removal records	Annually	Project Implementing Unit (PIU) and Four island IAS Taskforce	Eradication Plan Taskforce reports Community sighting reports	**Risks** --Inter-agency cooperation may be stifled by territorial rivalries -Expertise to formulate an effective plan is limited, both in Fiji and abroad **Assumption** - Interest and commitment of all relevant organizations to engage in this program
	Indicator 3.2: GII numbers on Qamea, Matagi and Laucala, as indicated by rates of removal	Reduction in GII numbers on Qamea, Matagi and Laucala by 50% or more as against baseline established in Year 1	Consultations with BAF eradication field teams; records of reports from the public; search-history records; removal records	Annually	Project Implementing Unit (PIU) and Research and Survey Teams	Recovery records Sighting records Timesheets of staff Report on baseline assessment Community perception survey records	**Risks** -Not all animals can be put at risk of being killed -Animals are difficult to detect -Lethal methods are limited and require further development -Agency and staff interest may wane with time -Lack of understanding of the need for long-term commitment to ensure success in eradication **Assumptions** -Resources and commitment will be available beyond the duration of the project -Improved detection and removal methods can be developed -The GIIs have not already spread too far to eradicate

Indicator	Target	Means of verification	Frequency	Responsible	Sources	Risks and Assumptions
						- Adequate capacity for monitoring native biodiversity exists
Indicator 3.3: Status and trends in native banded iguana populations (*Brachylophus bulabula*) in areas occupied by GII	Stable or improved populations of native banded iguana (*Brachylophus bulabula*) in areas previously (prior to eradication) occupied by GII on island(s)	Surveys reports, consultations with BAF eradication field teams and local communities	Annually	Project Implementing Unit (PIU) and Research and Survey Teams	Recovery records
Sighting records
Timesheets of staff
Report on baseline assessment	**Risks**
-Not all animals can be put at risk of being killed
-Animals are difficult to detect
-Lethal methods are limited and require further development
-Agency and staff interest may wane with time
-Lack of understanding of the need for long-term commitment to ensure success in eradication
Indicator 3.4: Community perceptions of damage to food crops and livelihoods in areas occupied by GII, disaggregated by gender	No/reduced community perceptions of damage to food crops and livelihoods in areas occupied by GII (prior to eradication)
At least 50% of sampled local population (40% of which are women), aware of potential adverse impacts of GII and need for biosecurity	Consultations with local communities. and survey reports	Year 1 and 5	Project Implementing Unit (PIU) and Independent surveys	Community perception survey records
Project monitoring reports,
Project awareness materials
IAS outreach reports
Pre- and Post-awareness survey reports	**Assumptions**
-Resources and commitment will be available beyond the duration of the project
-Improved detection and removal methods can be developed
-The GIIs have not already spread too far to eradicate
- Adequate capacity for monitoring native biodiversity exists
Risk
Actions among the assorted agencies and NGOs remain uncoordinated
Assumptions
Community diversity will not be a hindrance to outreach activities.

	Indicator 4.1*:* Level of awareness specifically among tour operators, resort owners, importers, tourists and shipping agents on IAS and biosecurity at national level	At least 50% of sampled tour operators, resort owners, importers, tourists and shipping agents aware of dangers of IAS and need for biosecurity (Based on baseline established in Year 1)	Consultations with travelling public, tourists, and industrial sectors	Annually	Project Implementing Unit (PIU) and Independent surveys	Project monitoring reports, Project awareness materials IAS outreach reports Pre- and Post-awareness survey reports	Risk Actions among the assorted agencies and NGOs remain uncoordinated Assumptions Community diversity will not be a hindrance to outreach activities.
Outcome 4: Knowledge management, awareness raising and capacity with regards to IAS and biosecurity	**Indicator 4.2:** Operational status of on-line clearing house for IAS information to collate and make accessible IAS information to stakeholders	On-line clearinghouse completed and actively used by relevant agencies	Consultation with FIST members and MoE	Annually	Project Implementing Unit (PIU) and MoE	Website updating records Website visitation records	Risk Lack of resources, information and personnel to move project forward Difficult with obtaining species information Assumption Required information is readily available Partnerships can be established that facilitate the sharing of existing information
Mid-Term GEF Tracking Tool			Standard GEF BD IAS Tracking Tool available at www.thegef.org Baseline GEF Tracking Tool included in Annex.	After 2nd PIR submitted to GEF	Project Implementing Unit (PIU) UNDP CO	Completed GEF Tracking Tool	Assumption: Partner entities support assessment
Terminal GEF Tracking Tool			Standard GEF Tracking Tool available at www.thegef.org Baseline GEF Tracking Tool included in Annex.	After final PIR submitted to GEF	Project Implementing Unit (PIU) UNDP CO	Completed GEF Tracking Tool	Assumption: Partner entities support assessment

Mid-Term Review		To be outlined in MTR inception report	Submitted to GEF same year as 3rd PIR	Independent evaluator	Completed MTR Report
Environmental and Social risks and management plans as relevant		Updated SESP and management plans	Annually	Project Implementing Unit (PIU) UNDP CO	Updated SESP	Assumption: Partner entities recognize and committed to manage social and environmental risks
Terminal Evaluation				Independent evaluator	Implementation Completion Report

Evaluation Plan:

Evaluation Title	Planned start date Month/year	Planned end date Month/year	Included in the Country Office Evaluation Plan	Budget for consultants	Other budget (i.e. travel, site visits etc.)	Budget for translation
Terminal Evaluation	After terminal PIR	To be submitted to GEF within three months of operational closure of project	Yes	USD 35,000	N/A	N/A
			Total evaluation budget	USD 35,000		

GEF Tracking Tool

(See separate file)

UNDP ENVIRONMENTAL AND SOCIAL SCREENING

The completed template, which constitutes the Social and Environmental Screening Report, must be included as an annex to the Project Document. Please refer to the Social and Environmental Screening Procedure *for guidance on how to answer the 6 questions.]*

Project Information

Project Information	
1. Project Title	Building Capacities to Address Invasive Alien Species to Enhance the Chances of Long-term Survival of Terrestrial Endemic and Threatened Species on Taveuni Island, Surrounding Islets and Throughout Fiji
2. Project Number (PIMS)	5589
3. Location (Global/Region/Country)	Asia and the Pacific/Fiji

Part A. Integrating Overarching Principles to Strengthen Social and Environmental Sustainability

QUESTION 1: How Does the Project Integrate the Overarching Principles in order to Strengthen Social and Environmental Sustainability?

Briefly describe in the space below how the Project mainstreams the human-rights based approach

Human rights, as laid down in the Universal Declaration of Human Rights and other international human rights instruments, are not infringed by the project. The project interventions would on the longer-term help sustain the livelihood of local communities that would result in poverty alleviation, improvement of living conditions and sustainable development of natural resources, by reducing the threat of IAS on native biodiversity, agricultural productivity and food security, health and trade. In this way it will safeguard the economic and social rights of the local communities will also took care of cultural and biological values of the local communities. Staff recruited for outreach efforts on the four-islands will comprise of a mix of *iTaukei* (native Fijians) and Fijian of Indian descent ancestries so that different communities, including poor and marginalized segments of these populations can be engaged in the language with which they are most comfortable. The project impacts would expedite right to environmental protection. The project will promote greater participation and inclusion of local communities, sectors and other important stakeholders in biosecurity and IAS management through delivery of training for communities and sector stakeholders, communications campaigns and inclusion of IAS themes into education curricula, to promote strengthened awareness of IAS issues and public participation in prevention and management of IAS. Oversight and accountability for project activities at the four islands would rests with the Four-Island IAS Taskforce that would include representatives of the *iTaukei* Affairs from the district (or sub-district) level who are mandated to ensure the protection, and economic and social development of native Fijian communities. This mechanism will facilitate resolution of specific grievances or concerns that may arise during project implementation.

Briefly describe in the space below how the Project is likely to improve gender equality and women's empowerment

The project incorporates several measures to enhance the role of women. Special mechanisms are envisaged under the project to promote the role of women in various activities, such as:

(i) Capacity building and training activities related to biosecurity (including frontline staff) would ensure that these include specifically women (at least 40% women will participate in training events);

(ii) Efforts will be made to encourage women's participation in outreach activities (at least 40% of population targeted by outreach program would be women) and actively attend outreach events and participating in various project initiatives;

(iii) Outreach teams at Taveuni will include local women mobilizers who would be involved in the outreach promotion to encourage greater participation of women from local communities in biosecurity activities;

(iv) Outreach and communication strategy will include a specific gender focus;

(v) Use of gender-sensitive indicators and collection of sex-disaggregated data for monitoring project outcomes and impacts;

(vi) Encouragement of qualified women applicants for positions within BAF, under government rules and regulations; and

(vii) Promotion of adequate representation and active participation of women in project specific committees, technical workshops, strategic planning events, etc.

Briefly describe in the space below how the Project mainstreams environmental sustainability

The objective of the project is to enhance the chances of the long-term survival of terrestrial endemic and threatened species on Taveuni Island and surrounding islets by building national and local capacity to prevent, detect, control and manage Invasive Alien Species. IAS of high risk to biodiversity, food security, livelihoods, health and trade would be prevented from entering Fiji resulting in reduced threats to endemic and threatened species within Fiji. This would be achieved through:

(i) Increasing awareness of travelling public, tourism operators, importers and shipping agents of the risks posed by IAS and the need for biosecurity measures that would reduce the risks of new introductions of IAS, resulting in reduced threats to endemic and threatened species, as well as reduced threats to food security, livelihoods, health and trade.

(ii) Building improved recognition on importance of biosecurity and control of IAS, including improved funding in Fiji that would help further reduce risk of invasive species introductions.

(iii) Strengthened measures for prevention, detection, control of entry of IAS of high risk to biodiversity and economic sectors into Taveuni and surrounding islets would also be put in place.

(iv) Increased capacity of Biosecurity Officers within the country as well as enhanced measures for detection, surveillance, monitoring and control of IAS in the country, all of which would enhance environmental security and sustainability.

(v) Compilation of a "black list" of IAS species that pose a high risk to native biodiversity, livelihoods, food security and health in Fiji that will be used to support cost-effective measures for improved prevention of these IAS from entering Fiji.

Part B. Identifying and Managing Social and Environmental Risks

QUESTION 2: What are the Potential Social and Environmental Risks? *Note: Describe briefly potential social and environmental risks identified in Attachment 1 – Risk Screening Checklist (based on any "Yes" responses).*		QUESTION 3: What is the level of significance of the potential social and environmental risks? *Note: Respond to Questions 4 and 5 below before proceeding to Question 6*		QUESTION 6: What social and environmental assessment and management measures have been conducted and/or are required to address potential risks (for Risks with Moderate and High Significance)?
Risk Description	*Impact and Probability (1-5)*	*Significance (Low, Moderate, High)*	*Comments*	*Description of assessment and management measures as reflected in the Project design. If ESIA or SESA is required note that the assessment should consider all potential impacts and risks.*
Risk 1: Conflicts of interest and different priorities of stakeholders may constrain implementation of activities	I = 3 P = 2	**Low**	Resistance of local communities to killing/eradication of GII that has been to some extent exacerbated by animal rights groups **Referred to SESP Attachment 1: Principle 1, Questions 5**	**Management Measures**: Interest will be fostered among stakeholders by making the economic case for prevention and control IAS. This would be supported by the outreach efforts to create awareness to the impacts of GII (as evidenced from other countries in the Caribbean where GII has not be controlled, and the impact of other IAS in Fiji itself) on local agriculture, biodiversity and economy, if nothing is done to eradicate it from the four islands site and prevent its spread elsewhere in Fiji. Through the knowledge management component and by outreach to the communities on the four islands site under components 3 and 4, the project will build strong awareness of the impacts of GII on food security, livelihoods, human health and native biodiversity and of the costs of these impacts to local people, if nothing is done to eradicate GIIs. The project will also target the outreach to NGOs and animal rights groups to create awareness of the potential larger impacts to native wildlife and local economy if GIIs are not removed from the four islands
Risk 2: Government officials and community organizations do not have the capacity to meet their full obligations related to the project	I = 3 P = 2	**Moderate**	Project preparation reveals that state government entities and local communities may not have the capacity to ensure the twin benefits of conservation and IAS eradication.	**Management Measures:** A needs assessment for capacity building of government, district and local community organizations would be undertaken, following which a comprehensive training strategy and plan for frontline staff and local communities would be designed and developed early during project implementation. International experts will be hired to facilitate the conduct of the training programs, as well as staff will be able to participate in regional training programs. Training programs would be regularly evaluated for their effectiveness and adjusted to meet the needs. In addition, BAF will recruit additional front line staff who would be sufficiently trained and posted to improve its capacity on the four islands site for

			Referred to SESP Attachment 1: Principle 1, Question 6	reducing the potential for unwanted non-native species to enter and establish within the country or portions of the country for those IAS which are already established but not wide spread. A comprehensive strategy for GII eradication would be developed and implemented, along with specialized training to improve staff skills at survey and detection of GIIs and in improved eradication methods.
Risk 3: Implementation of project initiatives within or near critical habitats in the landscapes; e.g. protected forests and national parks may threaten biodiversity conservation.	I = 2 P = 2	**Low**	Project interventions in terms of eradication of IAS are likely to occur within and adjacent to protected areas and critical habitats. **Referred to SESP Attachment 1: Principle 3, Standard 1, Question 1.2**	**Management Measures:** The primary objective of GII eradication is to conserve natural species and biodiversity within the four islands and hence is likely to improve conservation outcomes. The project is designed to strengthen prevention, detection, control and management of IAS in the demonstration areas, which include critical habitats, and environmentally sensitive areas that are a priority to protect from IAS, therefore the project's activities should enhance protection for these areas from IAS compared to business as usual. Because these areas are environmentally sensitive, any control measures implemented under the project will be assessed to ensure they do not have any negative impacts on these areas. While, it might be necessary to remove IAS from existing protected areas and forest reserves, these actions are aimed at exclusively removing the introduced GII and protect native species. Non-chemical methods (e.g. trapping, shooting etc.) would be used to selectively remove the GII, so as to protect native species and habitats and minimize any risk to non-target species. The GII eradication plan would be assessed for its impact on critical habitats and biodiversity and management action instituted to manage any potential environmental and social impacts.

Risk 4: Eradication activities of GII under the project may pose a risk to native endangered species (Fiji banded iguana; *Brachylophus bulabula*) if not conducted properly.	I = 2 P = 1	**Low**	Because juveniles of the native and invasive Iguana species are similar in appearance, there is potential for inadvertent removal of native Iguanas during the eradication process **Referred to SESP Attachment 1: Principle 3, Standard 1, Question 1.4**	**Management Measures:** the project will ensure that all personnel involved in eradication are properly trained in identification and distinction of the two species (there are differences in morphology and behavior). The project will also support awareness campaigns to increase public understanding of the differences between the native and invasive iguana and the risks posed by the invasive. A risk assessment of the eradication plan developed by the project will be conducted, and corresponding management and mitigation measures incorporated into the eradication plan.
Risk 5: Natural disasters and climate change may affect implementation and results of project initiatives.	I = 1 P = 1	**Low**	While, this is very unlikely, climate change may raise the threat of IAS by increasing the frequency/severity of fires, floods, and other natural events and thereby decreasing ecosystem resilience and creating conditions where invasive species can more easily become established. **Referred to SESP Attachment 1: Principle 3, Standard 2, Question 2.2**	**Management Measures:** The project is designed to increase resilience of natural ecosystems to climate impacts by reducing the threat of invasive alien species that could exacerbate the threat of climate change on native biodiversity and ecosystems. Climatic parameters will be considered during the undertaking of IAS risk assessments as well as during the preparation of the NISFSAP.

QUESTION 4: What is the overall Project risk categorization?	
Select one (see SESP for guidance)	Comments

Low Risk	☐
Moderate Risk	X A risk assessment of the GII eradication plan would also be undertaken to assess potential eradication risk and its management. Part of the risk management would include assessment of social and environmental risks. If potential environmental and social impacts are identified during the assessment, specific measures would be instituted to address such concerns.
High Risk	☐

QUESTION 5: Based on the identified risks and risk categorization, what requirements of the SES are relevant?	N/A

Check all that apply		Comments
Principles 1: Human Rights	X	Referred to SESP Attachment 1: Principle 1. Question 5 and 6.
Principle 2: Gender Equality and Women's Empowerment	☐	
Principle 3: Environmental Sustainability:	X	Referred to SESP Attachment 1: Principle 3. Standard 1, Question 1.2
Standard 1: Biodiversity Conservation and Sustainable Natural Resource Management	X	Referred to SESP Attachment 1: Principle 3. Standard 1, Question 1.2 and 1.4
Standard 2: Climate Change Mitigation and Adaptation	X	Referred to SESP Attachment 1: Principle 3: Standard 2, Question 2.2
Standard 3: Community Health, Safety and Working Conditions	☐	
Standard 4: Cultural Heritage	☐	
Standard 5: Displacement and Resettlement	☐	
Standard 6: Indigenous Peoples	☐	
Standard 7: Pollution Prevention and Resource Efficiency	☐	

SESP Attachment 1: Social and Environmental Risk Screening Checklist

Checklist Potential Social and Environmental <u>Risks</u>	
Principles 1: Human Rights	**Answer (Yes/No)**
1. Could the Project lead to adverse impacts on enjoyment of the human rights (civil, political, economic, social or cultural) of the affected population and particularly of marginalized groups?	No
2. Is there likelihood that the Project would have inequitable or discriminatory adverse impacts on affected populations, particularly people living in poverty or marginalized or excluded individuals or groups? [12]	No
3. Could the Project potentially restrict availability, quality of and access to resources or basic services, in particular to marginalized individuals or groups?	No
4. Is there likelihood that the Project would exclude any potentially affected stakeholders, in particular marginalized groups, from fully participating in decisions that may affect them?	No
5. Are there measures or mechanisms in place to respond to local community grievances?	Yes
6. Is there a risk that duty-bearers do not have the capacity to meet their obligations in the Project?	Yes
7. Is there a risk that rights-holders do not have the capacity to claim their rights?	No
8. Have local communities or individuals, given the opportunity, raised human rights concerns regarding the Project during the stakeholder engagement process?	No
9. Is there a risk that the Project would exacerbate conflicts among and/or the risk of violence to project-affected communities and individuals?	No
Principle 2: Gender Equality and Women's Empowerment	
1. Is there likelihood that the proposed Project would have adverse impacts on gender equality and/or the situation of women and girls?	No
2. Would the Project potentially reproduce discriminations against women based on gender, especially regarding participation in design and implementation or access to opportunities and benefits?	No
3. Have women's groups/leaders raised gender equality concerns regarding the Project during the stakeholder engagement process and has this been included in the overall Project proposal and in the risk assessment?	No
3. Would the Project potentially limit women's ability to use, develop and protect natural resources, taking into account different roles and positions of women and men in accessing environmental goods and services? *For example, activities that could lead to natural resources degradation or depletion in communities who depend on these resources for their livelihoods and well being*	No
Principle 3: Environmental Sustainability: Screening questions regarding environmental risks are encompassed by the specific Standard-related questions below	

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[12] Prohibited grounds of discrimination include race, ethnicity, gender, age, language, disability, sexual orientation, religion, political or other opinion, national or social or geographical origin, property, birth or other status including as an indigenous person or as a member of a minority. References to "women and men" or similar is understood to include women and men, boys and girls, and other groups discriminated against based on their gender identities, such as transgender people and transsexuals.

Standard 1: Biodiversity Conservation and Sustainable Natural Resource Management	
1.1	Would the Project potentially cause adverse impacts to habitats (e.g. modified, natural, and critical habitats) and/or ecosystems and ecosystem services? *For example, through habitat loss, conversion or degradation, fragmentation, hydrological changes*	No
1.2	Are any Project activities proposed within or adjacent to critical habitats and/or environmentally sensitive areas, including legally protected areas (e.g. nature reserve, national park), areas proposed for protection, or recognized as such by authoritative sources and/or indigenous peoples or local communities?	Yes
1.3	Does the Project involve changes to the use of lands and resources that may have adverse impacts on habitats, ecosystems, and/or livelihoods? (Note: if restrictions and/or limitations of access to lands would apply, refer to Standard 5)	No
1.4	Would Project activities pose risks to endangered species?	Yes
1.5	Would the Project pose a risk of introducing invasive alien species?	No
1.6	Does the Project involve harvesting of natural forests, plantation development, or reforestation?	No
1.7	Does the Project involve the production and/or harvesting of fish populations or other aquatic species?	No
1.8	Does the Project involve significant extraction, diversion or containment of surface or ground water? *For example, construction of dams, reservoirs, river basin developments, groundwater extraction*	No
1.9	Does the Project involve utilization of genetic resources? (e.g. collection and/or harvesting, commercial development).	No
1.10	Would the Project generate potential adverse trans-boundary or global environmental concerns?	No
1.11	Would the Project result in secondary or consequential development activities, which could lead to adverse social and environmental effects, or would it generate cumulative impacts with other known existing or planned activities in the area? *For example, a new road through forested lands will generate direct environmental and social impacts (e.g. felling of trees, earthworks, potential relocation of inhabitants). The new road may also facilitate encroachment on lands by illegal settlers or generate unplanned commercial development along the route, potentially in sensitive areas. These are indirect, secondary, or induced impacts that need to be considered. Also, if similar developments in the same-forested area are planned, then cumulative impacts of multiple activities (even if not part of the same Project) need to be considered.*	No
Standard 2: Climate Change Mitigation and Adaptation	
2.1	Will the proposed Project result in significant[13] greenhouse gas emissions or may exacerbate climate change?	No

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[13] In regards to CO_2, 'significant emissions' corresponds generally to more than 25,000 tons per year (from both direct and indirect sources). [The Guidance Note on Climate Change Mitigation and Adaptation provides additional information on GHG emissions.]

2.2	Would the potential outcomes of the Project be sensitive or vulnerable to potential impacts of climate change?	Yes
2.3	Is the proposed Project likely to directly or indirectly increase social and environmental vulnerability to climate change now or in the future (also known as maladaptive practices)? *For example, changes to land use planning may encourage further development of floodplains, potentially increasing the population's vulnerability to climate change, specifically flooding*	No
Standard 3: Community Health, Safety and Working Conditions		
3.1	Would elements of Project construction, operation, or decommissioning pose potential safety risks to local communities?	No
3.2	Would the Project pose potential risks to community health and safety due to the transport, storage, and use and/or disposal of hazardous or dangerous materials (e.g. explosives, fuel and other chemicals during construction and operation)?	No
3.3	Does the Project involve large-scale infrastructure development (e.g. dams, roads, buildings)?	No
3.4	Would failure of structural elements of the Project pose risks to communities? (e.g. collapse of buildings or infrastructure)	No
3.5	Would the proposed Project be susceptible to or lead to increased vulnerability to earthquakes, subsidence, landslides, and erosion, flooding or extreme climatic conditions?	No
3.6	Would the Project result in potential increased health risks (e.g. from water-borne or other vector-borne diseases or communicable infections such as HIV/AIDS)?	No
3.7	Does the Project pose potential risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during Project construction, operation, or decommissioning?	No
3.8	Does the Project involve support for employment or livelihoods that may fail to comply with national and international labor standards (i.e. principles and standards of ILO fundamental conventions)?	No
3.9	Does the Project engage security personnel that may pose a potential risk to health and safety of communities and/or individuals (e.g. due to a lack of adequate training or accountability)?	No
Standard 4: Cultural Heritage		
4.1	Will the proposed Project result in interventions that would potentially adversely impact sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture (e.g. knowledge, innovations, practices)? (Note: Projects intended to protect and conserve Cultural Heritage may also have inadvertent adverse impacts)	No
4.2	Does the Project propose utilizing tangible and/or intangible forms of cultural heritage for commercial or other purposes?	No
Standard 5: Displacement and Resettlement		
5.1	Would the Project potentially involve temporary or permanent and full or partial physical displacement?	No
5.2	Would the Project possibly result in economic displacement (e.g. loss of assets or access to resources due to land acquisition or access restrictions – even in the absence of physical relocation)?	No

5.3	Is there a risk that the Project would lead to forced evictions?[14]	No
5.4	Would the proposed Project possibly affect land tenure arrangements and/or community based property rights/customary rights to land, territories and/or resources?	No
Standard 6: Indigenous Peoples		
6.1	Are indigenous peoples present in the Project area (including Project area of influence)?	No
6.2	Is it likely that the Project or portions of the Project will be located on lands and territories claimed by indigenous peoples?	No
6.3	Would the proposed Project potentially affect the rights, lands and territories of indigenous peoples (regardless of whether Indigenous Peoples possess the legal titles to such areas)?	No
6.4	Has there been an absence of culturally appropriate consultations carried out with the objective of achieving FPIC on matters that may affect the rights and interests, lands, resources, territories and traditional livelihoods of the indigenous peoples concerned?	No
6.4	Does the proposed Project involve the utilization and/or commercial development of natural resources on lands and territories claimed by indigenous peoples?	No
6.5	Is there a potential for forced eviction or the whole or partial physical or economic displacement of indigenous peoples, including through access restrictions to lands, territories, and resources?	No
6.6	Would the Project adversely affect the development priorities of indigenous peoples as defined by them?	No
6.7	Would the Project potentially affect the traditional livelihoods, physical and cultural survival of indigenous peoples?	No
6.8	Would the Project potentially affect the Cultural Heritage of indigenous peoples, including through the commercialization or use of their traditional knowledge and practices?	No
Standard 7: Pollution Prevention and Resource Efficiency		
7.1	Would the Project potentially result in the release of pollutants to the environment due to routine or non-routine circumstances with the potential for adverse local, regional, and/or trans boundary impacts?	No
7.2	Would the proposed Project potentially result in the generation of waste (both hazardous and non-hazardous)?	No
7.3	Will the proposed Project potentially involve the manufacture, trade, release, and/or use of hazardous chemicals and/or materials? Does the Project propose use of chemicals or materials subject to international bans or phase-outs? *For example, DDT, PCBs and other chemicals listed in international conventions such as the Stockholm Conventions on Persistent Organic Pollutants or the Montreal Protocol*	No
7.4	Will the proposed Project involve the application of pesticides that may have a negative effect on the environment or human health?	No
7.5	Does the Project include activities that require significant consumption of raw materials, energy, and/or water?	No

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[14] Forced evictions include acts and/or omissions involving the coerced or involuntary displacement of individuals, groups, or communities from homes and/or lands and common property resources that were occupied or depended upon, thus eliminating the ability of an individual, group, or community to reside or work in a particular dwelling, residence, or location without the provision of, and access to, appropriate forms of legal or other protections.

1) Results of the capacity assessment of the project implementing partner; and 2) HACT micro assessment

Results of the capacity assessment of the project implementing partner

UNDP CAPACITY ASSESSMENT SCORECARD (FROM MONITORING GUIDELINES OF CAPACITY DEVELOPMENT IN GEF OPERATIONS) http://www.undp.org/content/dam/aplaws/publication/en/publications/environment-energy/www-ee-library/mainstreaming/monitoring-guidelines-of-capacity-development-in-gef-operations/Monitoring%20Capacity%20Development-design-01.pdf

At the project level

Project Cycle Phase: CEO Endorsement

Date: September 25, 2016

Capacity Result / Indicator[15]	Staged Indicators	Score	Comments	Next Steps	Contribution to which Outcome
CR 1: Capacities for engagement					
1.1. Degree of legitimacy/ mandate of lead biosecurity organizations	Authority and legitimacy of lead organization responsible for biosecurity management recognized by stakeholders	3	The Biosecurity Promulgation of 2008 recognizes and mandates the Biosecurity Authority of Fiji (BAF) to prevent the introduction and spread of animal and plant diseases and pests and manage quarantine controls at borders to minimize the risk of exotic pests and diseases entering the country.	Constitution and early notification of a National IAS Committee with clear Terms of Reference would go a long way in close supervision and project monitoring.	1
1.2 Existence of operational co-management mechanisms for biosecurity	Some co-management mechanisms are formally established through agreements, MOUs, etc.	2	BAF has established a number of MOUs with some of its key partners to facilitate and support the prevention of introduction of pests and diseases into the country, including IAS, but no-formal cooperation mechanisms beyond a few government partners and sectors and is largely ad-hoc and a coordination function needs to be institutionalized to facilitate effective coordination. A national coordinating body is absent, even though the existing	The establishment of the national coordinating body, preparation of NISFSAP and re-activation of the Fiji Invasive Species taskforce will facilitate determining key stakeholders and their individual and collective roles and responsibility for biosecurity related actions in the country and institute a mechanism that will facilitate effective coordination.	1

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15 All capacity result/indicators follow standard template, with exception that the focus is on "biosecurity" rather than environment, in general

			National Environment Council established by legislation could serve that function.		
1.3. Existence of cooperation with stakeholder groups for biosecurity	Stakeholders are identified, but their participation in decision-making is limited	1	BAF participates with a few partner agencies to ensure biosecurity at key international airports and seaports, but cooperation with stakeholder groups beyond this is very limited, especially with research, scientific and non-governmental entities	Based on NISFSAP, development of supportive legislative framework, regulations and MOUs to support participation of key stakeholders in decision-making on biosecurity issues in the country	1
CR 2: Capacities to generate, access and use information and knowledge					
2.1. Degree of biosecurity awareness of stakeholders	Some stakeholders are aware about global biosecurity and IAS issues, but not of possible solutions[16]	1	At national level, stakeholders have basic understanding of biosecurity and IAS concerns, with buy-in limited to a few sectors. There is overall limited knowledge to identify IAS and address biosecurity issues, with most stakeholders unable to adequately participate in prevention and control. At the local-level, stakeholders have little or no understanding of global environmental issues.	Expansion of biosecurity outreach, initially to the four islands to enhance awareness and capacity of community to actively become partners in in prevention and control of IAS movement. Based on initial trailing in four islands, its extension nationally	3, 4
2.2. Access and sharing of biosecurity related information by stakeholders	The biosecurity information needs are identified but the information management infrastructure is inadequate	1	There are no comprehensive IAS informational sources developed at the national level, without which prevention, management and awareness of IAS in Fiji will remain under capacitated as existing knowledge and information will	Development of database regarding IAS present on these four islands, established invasive species for each island. A national IAS database will be based on the successful completion of the four-island group IAS database. This	1, 4

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[16] This indicator is slightly modified from standard template, as follows: Stakeholders are not aware about global biosecurity and IAS issues and their related possible solutions (0); Some stakeholders are aware about global biosecurity and IAS but not about the possible solutions (1); Stakeholders are aware about biosecurity and IAS issues and the possible solutions but do not know how to participate (2) and Stakeholders are aware about biosecurity and IAS issues and are actively participating in the implementation of related solutions (3).

			not be readily accessible to all stakeholders and no comprehensive source of information will exist.	database will support IAS prevention and management across multi-sectorial efforts and allow both managers and policy makers to better understand IAS and improve development and implementation of regulations, policy and field actions throughout the country to address IAS concerns by complying both existing and new IAS information for the nation into one database that policy makers and managers can readily access.	
2.3 Extent of inclusion/use of traditional knowledge in biosecurity decision-making	Traditional knowledge is ignored and not taken into account into relevant participative decision-making process	**0**	Traditional knowledge, especially in regards to native biota could be used to augment outreach messages throughout the country and support sustainable use of native species	Traditional knowledge should be taken into consideration for the development of IAS awareness strategy and campaign(s). What native biota are/were beneficial and how these may be being impacted by non-natives can be used to focus IAS awareness material to relevant topics which will be supported by local communities	**4**
2.4. Existence of biosecurity awareness and education programs	Biosecurity education programs are partially developed and partially delivered	**1**	Programs are available, particularly to reach international visitors, but outreach to local and rural populations are minimal or non-existent. For the majority of local stakeholders there is no comprehensive outreach effort to reach such communities. There is no comprehensive strategies exist for the nation or specific islands/island groups	Targeted outreach and education programs would be developed for citizenry, particularly to ensure the management of inter islands transfer of IAS	**3, 4**
2.5. Extent of the linkage between research/science and biosecurity policy development	No linkage exist between biosecurity policy and science/research strategies and programs	**0**	Virtual absent are linkages with research and scientific institutions	The NISFSAP would provide the framework for helping to identify gaps, research needs for policy development and to identify institutions that could undertake biosecurity related science and research and facilitate linkages with policies	**1**
CR 3: Capacities to strategy, policy and legislation development					
3.1. Extent of the	The biosecurity planning and	**0**	Some efforts are being made to under IAs risk assessment and	The NISFSAP will provide the overall planning framework	**1, 4**

biosecurity planning and strategy development process	strategy development process is not adequately coordinated and does not produce comprehensive biosecurity plans and strategies		emergency responses, although not comprehensive. While biosecurity promulgation act exists, there is no clear comprehensive strategy or coverage. There is no overall IAS multi-party planning document for biosecurity in the country, resulting in an under-capacitated IAS management system that does not support synergistic, multi-party use of resources including cross-agency planning and action implementation.	and strategy for biosecurity in the country and the national coordinating body and FIST will oversee coordination of the planning and implementation	
3.2. Existence of an adequate Biosecurity policy and regulatory frameworks	Some relevant biosecurity policy and regulatory frameworks exists, but few are comprehensive, and are not adequately implemented and enforced them[17]	**1**	Gaps in legislation and policy should be identified as part of the stakeholder consultations in development of the NISFSAP. Gaps should be clearly documented in the NISFSAP and anticipated avenues for addressing any gaps provided through stakeholder input. Gaps such as the lack of biosecurity inspection services for domestic flights are already known and concepts on how to resolve such issues should be part of the NISFSAP development with clear timelines spelled out in the BAF strategy	Establishment of a national level IAS committee to coordinate activities throughout the nation is essential to improving existing components into a comprehensive framework. Development of a NISFSAP to guide IAS efforts. Development or re-engagement of an IAS taskforce, made up of local/regional experts, who can inform and support the national IAS committee is essential. Development of a biosecurity authority multi-year strategy, so that comprehensive and clear planning are available for the lead agency involved in IAS prevention and management. Determination through the NISFSAP development process of potential gaps in existing policy, legislation and regulations in regards to IAS	**1**

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[17] This indicator is modified from the standard template to reflect the situation in Fiji as follows: The biosecurity policy and regulatory frameworks are insufficient; they do not provide an enabling environment (0); Some relevant biosecurity policies and laws exist but few are comprehensive, and not adequately implemented and enforced (1); Adequate biosecurity policy and legislation frameworks exist but there are problems in implementing and enforcing them (2); and Adequate policy and legislation frameworks are implemented and provide an adequate enabling environment; a compliance and enforcement mechanism is established and functions (3)

				prevention and management and addressing these gaps through the national IAS body and BAF multi-year strategy	
3.3. Adequacy of the environmental information available for decision-making	Some biosecurity and IAS information is available to decision-makers but is not sufficient to support decision making [18]	1	There is no comprehensive IAS informational sources developed at the national level, without informed decision-making on prevention, management and awareness of IAS in Fiji will remain under capacitated.	The development, population and enabled access to the national database will support IAS prevention and management across multi-sectorial efforts and allow both managers and policy makers to better understand IAS and improve development and implementation of regulations, policy and field actions throughout the country to address IAS concerns by complying both existing and new IAS information for the nation into one database that policy makers and managers can readily access.	4
CR 4: Capacities for management and implementation					
4.1. Existence and mobilization of resources by relevant organizations	The funding sources for these resources are partially identified and the resource requirements are partially addressed	2	While BAF is able to mobilize reasonable resources for the tasks it currently undertakes, there is requirement for additional resources as and when its requirements are assessed based on the need for a more comprehensive biosecurity program that expands beyond pre-border and border preventive measures	More efforts are needed to leverage additional revenue to support biosecurity.	1,2,4
4.2. Availability of required technical skills and technology transfer	The required technical skills and technology needs are known, but application limited to pre-border and	1	Technical skills limited to pre-border and border surveillance and preventive measures and limited risk assessment and rapid response plans	Training of frontline staff on basic tools and techniques of prevention and control of IAS and expansion to inter-island movement as well as enhanced capacity in GII eradication will enhance skills and coverage	2, 3, 4

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[18] This indicator is modified from the standard template to reflect the situation in Fiji as follows: The availability of biosecurity and IAS information for decision-making is lacking (0); Some biosecurity and IAS information exists but it is not sufficient to support decision-making processes (1): biosecurity and IAS information is made available to decision-makers but the process to update this information is not functioning properly (2) and Political and administrative decision-makers obtain and use updated biosecurity and IAS information to make decisions (3)

	border prevention [19]				
CR 5: Capacities to monitor and evaluate					
5.1. Adequacy of the biosecurity monitoring process	Irregular monitoring is being done without an adequate monitoring framework detailing what and how to monitor a particular activity or program	**0**	Any monitoring data records are at best scattered in notebooks or non-existent	Development of a comprehensive IAS clearing house and database for Fiji as well as the NISFSAP development process should support monitoring gap identification and determination of how best to address any gaps that are identified. Gaps in monitory will likely be addressed through the BAF strategy development and implementation.	**4**
5.2. Adequacy of the biosecurity evaluation process	Presently none or no evaluations are being conducted without an adequate evaluation plan; including the necessary resources	**0**	Components of the current biosecurity system are reviewed as part of the review of other systems such as international port reviews, etc., but no comprehensive biosecurity review system appears to exist currently.	Establishment of a national IAS committee and the development of both the NISFSAP and BAF multi-year strategy should support both the mechanism and the specific strategies) for comprehensive biosecurity monitoring and evaluation	**4**
Total Score		**14/45**			

HACT micro assessment

- To be submitted during Project Inception**.**

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[19] This indicator is modified from the standard template to reflect the situation in Fiji as follows: The necessary required technical skills and technology are not available and the needs are not identified (0); The required technical skills and technology needs are known, but application is limited; (1); The required technical skills and technology needs are known but their access depend on foreign sources (2); and The required technical skills and technologies are available and there is a national-based mechanism for updating the required skills and for upgrading the technologies (3)

PROGRAM QA ASSESSMENT: DESIGN & APPRAISAL

OVERALL PROGRAM

EXEMPLARY (5) ●●●●●	HIGH (4) ●●●●○	SATISFACTORY (3) ●●●○○	NEEDS IMPROVEMENT (2) ●●○○○	INADEQUATE (1) ●○○○○
70-72 points	60-69 points	46-59 points	30-45 points	24-29 points

DECISION

- **APPROVE** – the program is of sufficient quality to continue as planned.
- **APPROVE WITH QUALIFICATIONS** – the program has issues that must be addressed before the country program document can be cleared for submission to the Executive Board.
- **DISAPPROVE** – the program has significant issues that require substantial revision before it is reviewed again.

RATING CRITERIA
(For each question, select the option from 1-3 that best reflects the program)

STRATEGIC

	3	2
1. **Is the program's analysis of the issues rigorous and credible, and does the Theory of Change specify an evidence-based and plausible change process/pathway?** • **3:** The program has an analysis and theory of change with a clear and plausible change pathway backed by credible evidence that has been used to define the program priorities. The CPD describes why the program's strategy is the best approach at this point in time. • **2:** The program has an analysis and theory of change backed by some evidence that has been used to define the program priorities. • **1:** The program is described in generic terms and analysis is not backed by credible evidence. There are no citations of evaluations, assessments, research or data. Program priorities are poorly articulated.	1	
	Evidence Refer to Figure 3.	

	3	2
2. **Does the CPD adequately describe UNDP's comparative advantage in the chosen program priorities?** • **3:** Analysis has been conducted on the role of other partners in the areas that the program intends to work, and credible evidence supports the proposed engagement of UNDP and partners through the program, including through evaluations and past lessons learned (i.e., what has worked in similar contexts.) • **2:** Some analysis has been conducted on the role of other partners in the areas that the program intends to work, and relatively limited evidence supports the proposed engagement of UNDP and partners through the program. • **1:** No analysis has been conducted on the role of other partners in the areas that the program intends to work to inform the design of the role envisioned by UNDP and other partners through the program.	1	
	Evidence on roles of other partners defined as per table on page 47 .History of supporting biodiversity conservation .Key partners such as Airport Fiji Limited, Fiji Inland Revenue and Customs Authority have been heavily involved in formulation consultations	

	3	2
Is the program thematically aligned with the UNDP Strategic Plan? • **3:** Program priorities explicitly reflect one or more areas of development work[1] as specified in the Strategic Plan (SP.) It integrates among program priorities one or more of the proposed new and emerging areas[2] and the program's RRF includes at least one SP outcome indicator per program outcome. • **2:** Program priorities are consistent with the three areas of development work as specified in the SP. The program's RRF includes at least one SP outcome indicator per program outcome. • **1:** Some program priorities clearly fall outside of the three areas of development work as specified in the SP without any justifiable programmatic rationale.	1	
	Evidence **UNDAF Outcome(s):** UNDAF for the Pacific Sub-region 2013-2017 – Outcome Area 1: Environmental management, climate change and disaster risk management **UNDP Strategic Plan Environment and Sustainable Development Primary Outcome:** Output 2.5. Legal and regulatory frameworks, policies and institutions enabled to ensure the conservation, sustainable use, access and benefit sharing of natural resources, biodiversity and ecosystems, in line with international conventions and national legislation	

	3	2
3. **Is UNDP working with other UN agencies to achieve joint results?** • **3:** The program includes up to four outcomes which exactly match the relevant UNDAF outcomes. The CPD explains UNDP's role in relation to other UN agencies in achieving these results, based on comparative advantage. Priorities for strengthening partnerships with other UN agencies are clearly identified. • **2:** The program includes up to four outcomes which exactly match the relevant UNDAF outcomes. Some explanation is given of the roles of UNDP and other UN agencies in achieving these results, and of the partnerships required for this. **1:** Some program outcomes may not be directly aligned with the UNDAF outcomes. There is not a clear explanation of the roles of UNDP and other agencies in achieving joint results.	1	
	Evidence Project executed by Government and supported by UNDP. UNEP not stationed in Fiji	

RELEVANT

	3	2
4. **Is the proposed program responsive to national priorities?** • **3:** There is credible evidence that all of the proposed program outcomes and indicative outputs are fully responsive to national priorities. • **2:** There is some evidence that the proposed program outcomes and indicative outputs contribute to national priorities.	1	
	Evidence Page 13: is aligned with the strategic priorities of the National Biodiversity Strategy	

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[1] 1. Sustainable development pathways; 2. Inclusive and effective democratic governance; 3. Resilience building

[2] Sustainable production technologies, access to modern energy services and energy efficiency, natural resources management, extractive industries, urbanization, citizen security, social protection, and risk management for resilience

• **1:** There is no evidence that the program responds to national priorities.		and Action Plan (NBSAP) of 2007 and its Implementation Framework that identifies control of IAS as critical to the success of biodiversity conservation and proposes priority actions Page 10: Biosafety Authority of Fiji (BAF) through the Biosecurity Promulgation of 2008 The Fiji Invasive Species Taskforce (FIST) constituted by the National Environment Council (NEC) under the National Environment Management Act of 2005, and convened under the chairmanship of BAF will advise and facilitate the coordination of the project.

	3	2
5. Does the CPD consistently apply an issue-based approach to its rationale, program priorities, partnerships and monitoring and evaluation?	1	
	Evidence	
• **3:** The program rationale elaborates on multidimensional development issues in describing the development context of the country. Program priorities involve collaborative and integrated multi-sectoral work (e.g., around target groups or geographic areas) and the engagement of partners to complement UNDP expertise. M&E frameworks are built around a broad range of evidence that facilitate understanding of interconnections among development results and challenges in different areas.	Outputs 1.3 & outcome 4.3 involves cross-sectoral approach to training & capacity building. Pages 23 – 45 elaborate on issues based approach	
• **2:** The program rational describes the development context of the country, exploring at least some interconnections among identified development challenges. Program priorities are defined as collaborative and multi-sectoral areas of work, including by engaging partners to complement UNDP expertise. M&E frameworks help understand the interconnection of development results and challenges.		
• **1:** The program rationale mostly describes a list of development challenges, without exploring their interconnections, and the country profile is not clear. Program priorities are mostly formulated on a sectoral/practice base and without a clear role for partners. The M&E framework relies mostly on sectoral evidence.		

	3	2
6. Has adequate gender analysis been conducted for the proposed program, and has the design of the program addressed the results of the gender analysis?	1	
	Evidence	
• **3:** Gender analysis has been conducted, and gender equality concerns are fully and consistently reflected in the program rationale, priority areas and corresponding RRF through at least one gender-specific outcome, and indicative outputs and indicators, where appropriate, and at least 15% of the budget allocated for gender specific results.	Page 46 – 51 mainstreaming gender describes mechanisms to promote role of women in activities	
• **2:** Gender analysis has been partially conducted, and gender equality concerns are reflected in the program rationale, priority areas and corresponding RRF through gender-specific outcomes, and/or indicative outputs and indicators, where appropriate.		
• **1:** Program priorities do not consider gender-specific needs or issues.		

SOCIAL & ENVIRONMENTAL STANDARDS		

	3	2
8. Has the program adequately considered the potential risks and opportunities related to gender equality and women's empowerment?	1	
	Evidence	
• **3:** The CPD explicitly describes how women will benefit from program opportunities and benefits. The CPD has identified and fully addressed any relevant risks related to potential gender inequality and discrimination against women and girls.	Social and Environment screening Report assessment (page 138) rules out risks to females	
• **2:** The CPD mentions how it intends to consider how women will benefit from program opportunities and benefits. The CPD has identified and partially addressed any relevant risks related to potential gender inequality and the situation of women and girls.		
• **1:** The CPD does not describe how women will benefit from program opportunities and benefits. It does not identify or address relevant risks related to potential gender inequality and the situation of women and girls.		

	3	2
9. Does the program apply a human rights based approach adequately and evenly across the program?	1	
	Evidence	
• **3:** Strong evidence that the program actively promotes the fulfillment of human rights and prioritizes the principles of accountability, meaningful participation, and non-discrimination. Any potential adverse impacts on enjoyment of human rights were rigorously identified and assessed and any relevant appropriate mitigation and management measures incorporated into program rational, strategy, and results and resource framework.	Page 71 – structure includes northern division task force, Fiji Invasive Species Task Force. Page 138 Social and Environmental Risk Screening –Human Rights Checklist	
• **2:** Partial evidence that the program promotes the fulfillment of human rights and the principles of accountability, meaningful participation, and non-discrimination were considered. Potential adverse impacts on enjoyment of human rights were identified and assessed and any relevant appropriate mitigation and management measures incorporated into the program rationale, strategy, and results and resources framework.		
• **1:** No evidence that opportunities to promote the fulfillment of human rights were considered in the program, including consideration of the principles of accountability, meaningful participation and non-discrimination. Limited evidence that potential adverse impacts on enjoyment of human rights were considered.		

	3	2
10. Does the program consider potential environmental opportunities and adverse impacts, applying a precautionary approach?	1	
	Evidence	
• **3:** Strong evidence that opportunities to enhance environmental sustainability and integrate poverty-environment linkages were fully considered and integrated in program strategy and design as relevant. Strong evidence that potential adverse environmental impacts have been considered, and avoided where possible, in the program design. The risk management approach includes potential environmental risks and how the program will ensure appropriate assessment is conducted and management measures put in place.	Social and Environmental Risk Screening on page 133 on biodiversity conservation and sustainable natural resource management Staff will be trained to identify and native species. Risk assessment of eradication plan will be developed as per page 54	
• **2:** Partial evidence that opportunities to strengthen environmental sustainability and poverty-environment linkages were considered as relevant. Partial evidence that potential adverse environmental impacts have been considered, and avoided where possible, in the program design. The risk management approach considers potential environmental risks and management measures.		
• **1:** No evidence that opportunities to strengthen environmental sustainability and poverty-environment linkages were considered. Limited or no evidence that potential adverse environmental impacts and risks were adequately considered.		

MANAGEMENT & MONITORING

	3	2
11. Are the program's outcomes and indicative outputs at an appropriate level and relate clearly to the theory of change and selected priority areas as described in the narrative?		
	1	
• **3:** The program's proposed outcomes and indicative outputs are at an appropriate level and relate in a clear way to the program's theory of change. There is a strong congruence between the CPD rational, program priorities and results framework. • **2:** The program's proposed outcomes and indicative outputs are at an appropriate level and are consistent with the program's theory of change. There is general coherence between the CPD narrative and the results framework. • **1:** The program's selection of outcomes and indicative outputs are not clearly justified in terms of a program theory of change. There is no or limited relationship between the program's narrative and selected priority areas and the results framework.	**Evidence** As per page 19 links between components, outcomes, outputs and barriers . Also reflected in log frame IV.

	3	2
12. Are the indicators selected to monitor the results of the program appropriate with fully populated baselines and milestones?		
	1	
• **3:** Outcomes and indicative outputs are accompanied by SMART, results-oriented indicators that measure the key expected changes identified in the theory of change, each with credible data sources and fully populated baselines, milestones and targets, including appropriate use of gender sensitive, sex-disaggregated and/or target group-focused indicators where appropriate. The RRF includes all relevant IRRF indicators at the outcome and output levels. • **2:** Outcomes and indicative outputs are accompanied by SMART, results-oriented indicators with specified data sources. Most baselines and targets populated. Some use of gender sensitive, sex-disaggregated and/or target group focused indicators, but there is scope to improve further. The RRF includes some relevant IRRF indicators. • **1:** Indicators not appropriately specified with corresponding baselines and targets. No gender sensitive, sex-disaggregated or target group-focused indicators. No clear inclusion of relevant IRRF indicators in the RRF.	**Evidence** Log Frame outcome 4 indicator page 63 –gender indicators. Log Frame indicators linked to IRRF indicator 2.5.**1** Number of countries with legal, policy and institutional frameworks in place for conservation, sustainable use, and access and benefit sharing of natural resources, biodiversity and ecosystems

	3	2
13. Are the monitoring arrangements adequate?		
	1	
• **3:** Provides details on data sources to be used for monitoring all program indicators, including responsibilities for data collection with timing and cost of direct data collection activities specified. Highlights particular issues regarding availability, quality, frequency or reliability of selected data sources, and appropriate plans to address these (e.g., systems strengthening, use of proxies, etc.) Plans are in place for generating appropriate analytics from available data, and ensuring adequate staff capabilities for enhanced M&E. Key risks relating to M&E are included in the program risk log. • **2:** Provides details on data sources identified in the RRF, with a particular focus on sources for which direct data collection is required or for which existing M&E or statistical systems need to be strengthened, with a budget allocated for these activities. Appropriate plans are in place to address major data gaps or weaknesses, with some reference to use of data for analytics and ensuring adequate staff capacities for enhanced M&E. • **1:** Does not identify the main data sources to be used in tracking program results or consider their quality. Does not clearly identify who will participate in generating data or using it for monitoring.	**Evidence** Project Results Framework (pages 54 – 58) notes of relevant means of verification under outcome 1 & 2 Page 113 Data specialist recruited each year through out project & log frame page 60 (BAF data base)

	3	2
14. Is there an adequate, realistic and costed evaluation plan?		
	1	
• **3:** Detailed plans are provided for an appropriate set of strategic evaluations, including final and mid-term evaluations, with timing and relevant partners specified. A realistic estimate of the costs is provided, with expected funding source(s) identified. UNDP contributions towards the cost of evaluation are included in the program budget. Program design takes into account evaluation requirements. • **2:** An appropriate set of strategic evaluations are listed with timing and relevant partners specified. A realistic cost estimate is provided for each evaluation, even if a funding sources are not provided, and included in the budget. • **1:** Insufficient details are provided to judge the suitability of evaluations planned. Some details are missing on the timing, evaluation type, relevant partners, or estimated cost of the evaluations, or stated costs are unrealistic.	**Evidence** Table 3: Monitoring and Evaluation Budget page 68 & 69

	3	2
15. Have the key program risks and opportunities been identified, linked to the assumptions in the theory of change, with clear plans stated to respond?		
• **3:** Program risks and opportunities fully described in the CPD, based on comprehensive analysis which references key assumptions made in the project's theory of change. Clear and complete plan in place to manage and mitigate each risk and take advantage of opportunities.	
	1	
• **2:** Program risks and opportunities identified in the CPD. Clear plan in place to manage and mitigate risks. • **1:** Some risks identified in CPD, but no or inadequate response measures identified.	Evidence Table 2 project risks and management outlines risks and management measures – page 53

EFFICIENT

	3	2
16. Does the program document include explicit consideration of strategies for scaling up to achieve greater impact?		
	1	
• **3:** The CPD specifically mentions potential for scaling up to achieve greater impact with available resources[20]. The results framework includes suitable indicators to monitor changes in the scale of benefits achieved over time[21]. • **2:** The CPD includes some consideration of current or future opportunities for scaling up to achieve greater impact with available resources. • **1:** The CPD does not consider strategies for scaling up in the program priorities or results framework.	Evidence Page 55 IV. Sustainability and scaling up

	3	2
17. Does the CPD provide a convincing account as to how the expected size and scope of the results can feasibly be delivered with the available resources and resource mobilization opportunities?		
	1	
• **3:** The size and scope of the program is very congruent with the indicative resources available for the program and resource mobilization opportunities emerging from donor intelligence. The CPD outlines a "Plan B" to scale down the expected results if there are challenges raising the required funds. • **2:** The size and scope of the program is consistent with the indicative resources available for the program and resource mobilization opportunities emerging from donor intelligence. While the CPD does not outline a "Plan B" to	**Evidence** Page 69: Section X total budget and work-plan. Further budgetary notes provided

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[20] i.e., through significant geographic or target group coverage, strategic partnership strategies for up-scaling UNDP pilots or innovations, and/or contribution to policy change that can effect results at scale.

[21] For example, indicators related to policy-making processes do not measure just the adoption and implementation of a policy, but also its intended benefits on target groups.

| | scale down the expected results if there are challenges raising the required funds, it is reasonably likely that the country office will have the flexibility to adjust the program if needed.
• **1:** The size and scope of the program is not congruent with the indicative resources available for the program and/or with the resource mobilization opportunities emerging from donor intelligence. It is not likely that the program will be able to mobilize the required resources to implement the program. | |

EFFECTIVE		
18. Has the proposed program adequately used evaluation findings and other outcome-level evidence from other/prior program performance? • **3:** Knowledge and lessons learned backed by credible evidence from evaluation, analysis, corporate policies/strategies, and monitoring have been <u>explicitly used</u>, <u>with appropriate referencing</u>, to develop the program's theory of change and justify the approach used by the program over alternatives. • **2:** The program design references knowledge and lessons learned backed by evidence from evaluation, analysis, corporate policies/strategies, and monitoring and/or other sources, but <u>these references have not been explicitly used</u> to develop the program's theory of change or justify the approach used by the program over alternatives. • **1:** There is only <u>scant, or no, mention</u> of knowledge and lessons learned informing the program design. Existing references <u>are not backed by evidence</u>.	3	2
	1	
	Evidence The project takes into account lessons learnt from other projects but does not specifically make mention of this	

19. Has the program effectively identified targeted groups/areas and are strategies in place for regular engagement throughout implementation to ensure voice and participation? • **3:** Target groups/areas are clearly specified and the theory of change explains why these group will be targeted. The program has a strategy to identify and engage target groups/areas through program monitoring, governance and/or other means to ensure the program remains relevant to their needs. • **2:** Some target groups/areas are mentioned in the CPD in broad terms. The program mentions how it will engage targeted groups/areas throughout implementation. • **1:** The target groups/areas are not specified in the CPD. The program does not have a written strategy to identify or engage the target groups/areas throughout implementation.	3	2
	1	
	Evidence Page 42 – 44 Table 1: Stakeholder Involvement Plan notes stakeholders, roles, potential role in project as well as involvement mechanism/strategies	

20. Has the CPD integrated adequate analysis and explicit measures to promote and utilize South-South and Triangular Cooperation? • **3:** South-South and Triangular Cooperation opportunities are fully described in the CPD, based on up-to-date and comprehensive demands assessment and demand-supply matching results. Clear indication of measurable results to be achieved through South-South and Triangular Cooperation in the CPD. • **2:** Specific South-South and Triangular Cooperation opportunities are described in the CPD, based on consideration of demand and UNDP comparative advantage. Some indication of measurable results to be achieved through South-South and Triangular Cooperation in the CPD. • **1:** CPD may refer to South-South and Triangular Cooperation but does not give specific plans for how it will be used. There is no evidence to support why or why not South-South and Triangular Cooperation has been opted.	3	2
	1	
	Evidence	
	Page 50 South – South Cooperation -project specific to Fiji but has implications for rest of Pacific. Experiences in biosecurity important of rest of Pacific islands	

SUSTAINABILITY & NATIONAL OWNERSHIP		
21. Have national partners proactively engaged in the design of the program? • **3:** The program has been developed jointly by UNDP and a range of national partners (government, donors, civil society, beneficiaries, etc.), with credible evidence of this provided in the CPD. • **2:** The program has been developed by UNDP in consultation with national partners (esp. government), with some evidence of this mentioned in the CPD. • **1:** The program has been developed by UNDP with limited or no engagement with national partners. There is little to no mention of engagement with national partners on the program design in the CPD.	3	2
	1	
	Page 41 stakeholder engagement notes wide range of stakeholders during PPG stage	

22. Are key institutions and systems identified, and is there a strategy to ensure the sustainability of results (i.e., to ensure that results last and even grow beyond UNDP's engagement?) • **3:** The program has a strategy for strengthening capacities of national institutions integrated throughout the program, which is reflected in the identification of outcomes, indicative outputs and indicators. • **2:** The CPD has identified indicative outputs that will be undertaken to strengthen capacity of national institutions, but these outputs are not part of a comprehensive strategy and it is not clear how capacity and sustainability of results will be measured. • **1:** There is mention in the program document of capacities of national institutions to be strengthened through the program, but there is no evidence of a specific strategy, measurement or incorporation into the results framework.	3	2
	1	
	Evidence Outputs under outcome 1 are nationally oriented, Outputs under outcome 2 are focused on prevention and surveillance on four islands, Outcome 3 is on eradication of GII on 4 islands and outcome 4 is on knowledge management They are strategically positioned and linked to sustainability.	

23. Does the program include a strategy for using nationally-owned data sources and working with partners to strengthen national statistical systems and capacities? • **3:** The RRF includes some relevant country-specific outcome and output indicators that will be monitored using nationally-owned data sources. The M&E section includes an analysis of the availability and quality of existing national data sources and states clear plans for how UNDP will work with partners to strengthen national M&E and statistical systems where needed, in a way that contributes towards sustainable country capacities. • **2:** The RRF includes some relevant country-specific outcome and output indicators that will be monitored using nationally-owned data sources. The M&E section includes some consideration of the quality of relevant national data sources and states plans for how UNDP will work with partners to strengthen these, with some consideration of building sustainable country capacities. • **1:** The RRF does not include relevant country-specific outcome or output indicators or does not identify relevant national sources to be used in monitoring. The M&E section may include some plans to develop M&E systems required for program monitoring, but does not address weaknesses in the broader national statistical system or capacities.	3	2
	1	
	Evidence Under outcome 2 outputs include database collation, clearing house mechanism established for executing agency -page 29	

Gender Analysis and Action Plan

Gender equality is one of 17 Global Goals that make up the 2030 Agenda for Sustainable Development. According to the Global Gender Gap Report released by the World Economic Forum (WEF) in 2015[22], Fiji was ranked 121 on the Gender Gap Index (GGI) among 145 countries polled.

Fiji has made considerable progress in recognizing gender issues in relation to legal and human rights and gender and development, as reflected in legislative and policy progress since 1988[23]. It has made commitments to eight major international agreements and programs for action on gender equality and advancement of women. It is committed to achievement of the Millennium Development Goals (MDGs), including those associated directly or indirectly with the status of women and gender equality. The National Gender Policy[24] provides a framework for including gender perspectives in all activities of government and civil society, thereby promoting full and equal participation of men and women in the development process. The policy is consistent with the Government's commitment to implementing the Women's Plan of Action (WPA 2010-2019) based on the Beijing Platform for Action, and with Fiji's commitment to the Convention on the Elimination of Discrimination against Women.

Despite, these efforts, gender inequality in Fiji persists amidst high rates of economic growth. Women participation in economic activities and decision-making is much less, than men, although in terms of health and survival, and enrollment in primary, secondary and tertiary education there is little gender differences between men and women. Although recent indicators show little difference in the educational levels and achievements of men and women, and despite government commitments to gender equality, occupational discrimination in the Fiji Islands labor markets are strong and persistent.

About 39% of women in Fiji aged 15 years and over are categorized as economically active. One third of those involved in informal sector economic activities are women, and women form 30% of the non-agricultural workforce. Around 78% of all informal sector activity in Fiji involves agriculture, forestry and fishing, and one third of those involved in such activities are women. Women actively participate in almost all aspects of agricultural production in Fiji, including farming, marketing, food processing and distribution, and export processing. Rural women typically farm land that belongs to their male relatives as father-to-son inheritance practice tend to make it difficult, if not impossible, for women to own land. *iTaukei* (native Fijian) women are frequently excluded from formal inheritance rights to customary land, tend to have no rights to land other than those permitted by their fathers or husbands, and do not customarily receive land rents[25]. Consequently few women own businesses, because the inheritance laws practiced by both major ethnic groups (*iTaukei* and Fijian of Indian descent) usually also exclude women from inheriting other fixed assets.

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[22] World Economic Forum, The Global Gender Gap Report, 2015

[23] Asian Development Bank. Country Gender Assessment (2006).

[24] Fiji National Gender Policy, Ministry for Social Welfare, Women and Poverty Alleviation, 2014

[25] http://asiapacific.unwomen.org/en/countries/fiji/co/fiji

Role and participation of women in biosecurity-related activities

While the proportion of women in the economically active population and civil service has increased since 1988, employment opportunities for women are concentrated in a small part of the labour market and in the civil service in the Ministries of Health and Education. Women's share in the central government service is around 30%, a significant proportion of which are on the daily or weekly wage basis. This reflects the different terms of employment in the civil service. However, in terms of the Biosecurity Authority of Fiji, around 43% of technical staff are women, who participate in aspects related to disease management, emergency responses, awareness and outreach, surveillance, prevention and management of IAS and biosecurity related activities. This figure is above the national average. Consequently, women staffers will benefit immensely from the training, capacity development, new technologies and tools that would be used by the project.

Role and participation of men and women in biodiversity conservation

In the selected four-Island area of the project, Gender is a key dimension in sustainable conservation, management, agriculture and livelihoods and use of biodiversity resources. Women and men have complementary knowledge and perceptions of their natural environment and the biodiversity around them as a result of gender differences in functions, responsibilities, needs, social relations, behaviors, resource accessibility, ownership, and awareness. Gender and social differences, which are location-specific and socially constructed and can be changed, strongly influence the way women and men experience environmental and socioeconomic changes.

Men and women undertake different roles, responsibilities and task in biodiversity conservation, management and livelihoods in the four-island site. Women play a critical role in maintaining and sustaining local-level biodiversity, including the domestication of wild plants, genetic manipulation of plants and animals, and seed management. Despite their lack of adequate representation in local committees and decision-making, women are more involved in natural resource management than men. Women are involved in the collection of wild species.

In terms of natural disasters and the impacts of climate change, women experience their impacts in ways that are distinct from men. Rising sea levels and changes in air and water temperature have distinct impacts on women's traditional economic, agricultural and fishing duties, as do the impacts of over-fishing. Women also face an increased vulnerability to violence and deprivation after natural disasters. It is vital that communities respect and utilize women's unique skills, and give women a voice in how communities rebuild after disasters. Temporary and/or permanent displacement as a result of climate change and natural disaster place women in vulnerable economic and social positions, as communities struggle to adapt to the changes in their natural environments

It is essential therefore to incorporate gender perspectives into the project based activities in the four-island area. Assimilating gender perspectives makes one more conscious of the impact of gender in defining roles and responsibilities, the division of labor, needs, knowledge, and inequalities, and the differences inherent in the unequal power relations between men and women in terms of land

ownership, resource use and access. This can help to lessen the impact on women (in particular, if IAS, including GII, establish and increase substantially in numbers that could cause potentially significant impacts on local agriculture, livelihoods, and health.

Strategy/Action Plan for Gender Mainstreaming in project

Special mechanisms are envisaged under the project to promote the role of women in various activities. These include in particular the following:

Gender Mainstreaming Objective	Gender Mainstreaming Activity	Gender mainstreaming Target
To enhance capacity, skills and competence of women in technical aspects related to biosecurity	Participation in technical training programs, study tours and other skills development activities	At least 40% of technical and front-line staff in BAF and partner agencies trained under the project are women
To enhance knowledge and awareness of rural women of the risks and impacts of IAS on native ecosystems and biodiversity, agriculture, tourism and human health	Participation of women in biosecurity outreach activities	At least 40% of people benefiting from the outreach program and various project initiatives are women
To encourage active participation of women in delivery of outreach at Taveuni and encourage greater participation of women	Recruitment of women from local communities (*iTaukei* and Fijian of Indian descent) as part of Outreach teams in Taveuni	At least 20% of Outreach team members are women.
To enhance and measure women's participation in project-related activities	Use of gender-sensitive indicators and collection of sex-disaggregated data for monitoring project outcomes and impacts.	Gender disaggregated data included in Results Framework for measuring (i) capacity enhancement; and (ii) outreach and awareness
Enhancing women's role in project-related activities	The outreach and communication strategy will include specific efforts to encourage women's role	Outreach and communication strategy will be designed with a gender focus
Improve women's role in decision-making	Promote adequate representation and active participation of women decision-making bodies.	Women representation in project specific committees (e.g. National multi-sectoral coordinating committee, FIST, FIIT, etc.) and participation technical workshops, strategic planning events (e.g. NISFSAP, EDRR, GII eradication plan, outreach plan), etc. would be increased
Enhanced role of women in biosecurity-related aspects	Encouragement of qualified women applicants for positions, under BAF rules and regulations.	Recruitment of new biosecurity and technical staff maintained at 40% or more

Co-financing letters

(Separate File)