



# UNITED NATIONS ENVIRONMENT PROGRAMME

Programme des Nations Unies pour l'environnement

Programa de las Naciones Unidas para el Medio Ambiente

Программа Организации Объединенных Наций по окружающей среде

برنامج الأمم المتحدة للبيئة

联合国环境规划署



## PROJECT DOCUMENT

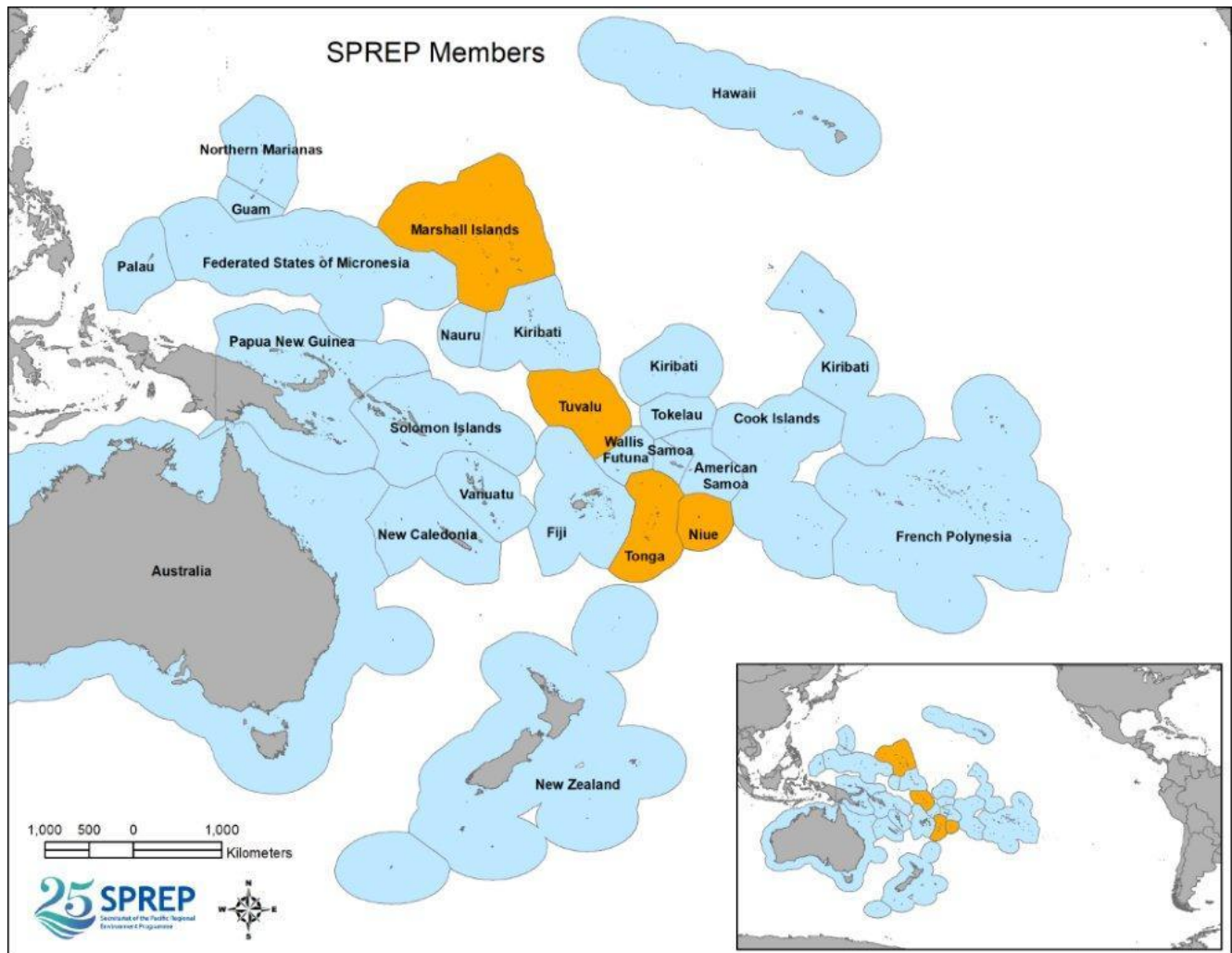
### SECTION 1: PROJECT IDENTIFICATION

- 1.1 Project Title: Strengthening national and regional capacities to reduce the impact of Invasive Alien Species on globally significant biodiversity in the Pacific
- 1.2 Project number: 9410
- 1.3 Project type: FSP
- 1.4 Trust Fund: GEF
- 1.5 Strategic Objectives: GEF strategic long-term objective: BD2  
Strategic Program 4: Prevention, control & management of invasive alien species
- 1.6 UN Environment priority: Ecosystem Management
- 1.7 Geographical scope: Regional
- 1.8 Mode of execution: External
- 1.9 Project executing organisation: Secretariat of the Pacific Regional Environment Programme
- 1.10 Duration of project: 60 Months  
Commencing: January 2019  
Technical completion: January 2024  
Validity of legal instrument: 72 months
- 1.11 Cost of project: US\$ 28,429,646  
Cost to the GEF Trust fund: US\$ 6,252,489 (22%)  
Co-finance: US\$ 22,177,157 (78%)

**Table 1: Sources of co-financing**

| <b>Sources of Co-financing</b> | <b>Name of Co-financier</b>   | <b>Type of Cofinancing</b> | <b>Amount (\$)</b> |
|--------------------------------|---|----------------------------|--------------------|
| GEF Agency                     | United Nations Environment  | In-kind                    | 150,000            |
| Recipient Government           | Government of Kingdom of Tonga  | In-kind                    | 980,940            |
| Recipient Government           | Government of Niue  | In-kind                    | 1,490,000          |
| Recipient Government           | Government of Republic of Marshall Islands                                    | In-kind                    | 1,818,300          |
| Recipient Government           | Government of Tuvalu  | In-kind                    | 598,593            |
| Non-Governmental Organisation  | Island Conservation   | Cash                       | 600,000            |
| Non-Governmental Organisation  | Island Conservation   | In-kind                    | 1,100,000          |
| Others                         | Secretariat for the Pacific Regional Environment Programme                    | In-kind                    | 1,725,784          |
| Other                          | Secretariat for the Pacific Regional Environment Programme                    | Cash                       | 8,970,216          |
| Others                         | (Secretariat for the) Pacific Community                                       | In-kind                    | 1,000,000          |
| Others                         | Landcare Research NZ Ltd (USD3,440,924) plus Pacific Biosecurity (USD302,400) | In-kind                    | 3,743,324          |
| <b>Total Co-financing</b>      |   |                            | <b>22,177,157</b>  |

Figure 1: Location of this regional project including the four participating countries (highlighted).



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## ACRONYMS AND ABBREVIATIONS

|         |  |
|---------|--|
| AMSA    | Australian Maritime Safety Authority                         |
| BD      | Biodiversity   |
| BS      | Biosecurity  |
| CABI    | Centre for Agriculture and Biosciences International         |
| CBD     | Convention on Biological Diversity                           |
| CEPF    | Critical Ecosystems Partnership Fund                         |
| COP     | Conference of the Parties                                    |
| CROP    | Council of Regional Organisations in the Pacific             |
| CSO     | Civil Society Organisation                                   |
| EA      | Executing Agency   |
| EU      | European Union   |
| EDRR    | Early Detection Rapid Response                               |
| FAO     | Food and Agriculture Organisation of the United Nations      |
| FSM     | Federated States of Micronesia                               |
| GEF     | Global Environment Facility                                  |
| GEF PAS | GEF Pacific Alliance for Sustainability                      |
| IA      | Implementing Agency  |
| IAS     | Invasive Alien Species                                       |
| IC      | Island Conservation  |
| IUCN    | International Union for the Conservation of Nature           |
| M&E     | Monitoring and Evaluation                                    |
| MEA     | Multilateral Environmental Agreement                         |
| MNZ     | Maritime New Zealand   |
| MTR     | Mid Term Review  |
| NBSAP   | National Biodiversity Strategy and Action Plan               |
| NEMS    | National Environmental Management Strategy                   |
| NISSAP  | National Invasive Species Strategy and Action Plan           |
| NPC     | National Project Coordinator                                 |
| NZ MFAT | New Zealand Ministry of Foreign Affairs and Trade            |
| PA      | Project Associate  |
| PAPP    | Pacific Ant Prevention Programme                             |
| PC      | Project Coordinator  |
| PICTs   | Pacific Islands Countries and Territories                    |
| PIF     | Pacific Island Forum   |
| PII     | Pacific Invasives Initiative                                 |
| PILN    | Pacific Invasives Learning Network                           |
| PIP     | Pacific Invasives Partnership                                |
| PIR     | Project Implementation Review                                |
| PISCDS  | Pacific Invasive Species Capacity Development Strategy       |
| PM      | Project Manager  |
| PMU     | Project Management Unit                                      |
| PNG     | Papua New Guinea   |
| PPG     | Project Preparation Grant                                    |
| PRISMSS | Pacific Regional Invasive Species Management Support Service |
| PSC     | Project Steering Committee                                   |
| RMI     | Republic of the Marshall Islands                             |

|                |  |
|----------------|--|
| RSC            | Regional Steering Committee  |
| RSPB           | Royal Society for the Protection of Birds  |
| R2R            | Ridges to Reef project under GEF 5   |
| SIDS           | Small Island Developing States   |
| SMART          | Specific; Measurable; Attainable; Relevant; Trackable                              |
| SOP            | Standard Operating Procedure   |
| SOP Manu RFPBS | Polynesian Ornithological Society  |
| (S)PC          | Pacific Community (formerly Secretariat of the Pacific Community)                  |
| SPREP          | Secretariat for the Pacific Regional Environment Programme                         |
| SPS            | Sanitary and Phytosanitary   |
| STAP           | Scientific and Technical Advisory Panel (of the GEF Trust Fund)                    |
| STDF           | Standards and Trade Development Facility   |
| TAG            | Technical Advisory Group   |
| TE             | Terminal Evaluation  |
| UN             | United Nations   |
| UN Environment | United Nations Environment   |
| UNDP           | United Nations Development Programme   |
| USDA/APHIS     | United States Department of Agriculture/Animal and Plant Health Inspection Service |
| VEPA           | Vava'u Environmental Protection Association  |
| WTO            | The World Trade Organisation   |
| YCA            | Yellow Crazy Ant   |

## SECTION 2: BACKGROUND AND SITUATION ANALYSIS (BASELINE COURSE OF ACTION)

### 2.1 Background and context

1. The Pacific Ocean covers 165,250,000 square kilometres (sub Antarctic as southern boundary) and includes approximately 30,000 islands. It is the largest ocean in the world covering about 46% of the world's water surface area and about one third of the total global area.

2. Islands are recognized as having exceptionally high numbers of endemic species, with 15% of bird, reptile and plant species on only 3% of the world's land area. The conservation significance of islands is highlighted by global analyses showing that 67% of the centres of marine endemism and 70% of coral reef hotspots are centred on islands. After habitat destruction and modification such as logging, on a regional scale this unique flora and fauna is most threatened by Invasive Alien Species (IAS) and in countries where logging and habitat modification have essentially stopped, IAS are the prime threat to native biodiversity.

3. IAS are those plants, animals and microbes which are introduced to new localities, mainly through human activities, where they establish and aggressively spread, impacting negatively on biodiversity, agriculture, water resources, and human health (Pimental, 2001). Invasive species commonly drive native species to extinction through impacts such as predation, displacement and habitat modification. IAS are distinct from "pests" in specifically having additional negative impacts on ecosystem services, including amongst others, such services as a stable hydrology for water supply and containment of floods; soil productivity, pollination functions, or containment of crop diseases for food crop production (Turpie 2004; van Wilgen *et al.*, 2008).

4. Since the year 1600 39% of animal extinctions arose mainly from the introduction of alien species, 36% from habitat destruction, and 23% from hunting or deliberate extermination. It is well documented that most of these extinctions occurred on islands, mainly as a result of IAS. Thus, on islands 80-90% of all reptile extinctions, 80-93% of all bird extinctions and 50-81% of all mammal extinctions have been attributed to IAS. Islands have suffered 64% of International Union for the Conservation of Nature (IUCN)-listed extinctions and harbour 45% of IUCN-listed critically endangered species. In the past 500 years, IAS have contributed to the extinction of nearly half of global bird extinctions and 67% of globally threatened birds inhabiting oceanic islands are affected by IAS compared to 30% of globally threatened birds on continents. A graphic example is the Hawaiian Islands where over half of the endemic birds are now extinct, due to habitat loss, introduced predators and diseases.

5. Small Island Developing States (SIDSs) of the Pacific have lacked national policy, awareness and capacity to effectively deal with IAS. The lack of regional cooperation and coordination is also a major impediment, especially with regard to the management of pathways and the provision of high quality technical support. Failure of one SIDS to effectively manage IAS means that all other islands are at increased risk, especially where one may be a transport hub such as Fiji or Guam. A review of available data from the Pacific SIDSs (e.g. Sherley, 2000 and references therein) reveals a wide range of invasive species are already affecting the economy, human and animal health and biodiversity of global significance. The four countries included in this project (Tonga, Niue, Republic of Marshall Islands and Tuvalu) are all parties to the Convention on Biological Diversity (CBD). Other SIDSs in the Pacific region who have ratified the CBD (all) will also benefit. As such these small island states recognize that there is an urgent need to address the impact of Invasive Alien Species (IAS) and this is consistent with Article 8(h) of the Convention on Biological Diversity (CBD) which states that, "Each



contracting Party shall, as far as possible and as appropriate, prevent the introduction of, control or eradicate those alien species which threaten ecosystems, habitats or species”.

6. Since the early 1990’s on becoming parties to the CBD these small island states have undertaken various initiatives to satisfy their commitment under the CBD in general and article 8(h) in particular. However, the vulnerabilities to IAS due to their relatively large border to land mass; difficult topography; large numbers of tourist arrivals; relatively high volume of trade; insufficient technical capacity and poor coordination among stakeholders made it imperative that these SIDS collaborate to tackle the issue of IAS in a manner that will build capacity, create greater awareness while eradicating, controlling and managing IAS that are affecting native biodiversity currently and lead to sustainable actions for preventing further negative impacts from IAS.

7. There is a dearth of quantitative information on impact of IAS on biodiversity and the economies of these countries. Table 1 highlights some important IAS that are currently impacting the SIDS in the Pacific. However sufficient evidence exist that this problem is an old one and has contributed to the severe negative impacts on native biodiversity as shown in number of native and endemic species that are critically endangered and threatened (see Appendix 17) mostly by invasive alien species.

**Table 2: Terrestrial IAS posing significant threats to biodiversity occurring in the four project countries (compiled from Sherley 2000) with some notes on distribution**

| COUNTRY      | NON-EXHAUSTIVE** LIST OF INVASIVE ALIEN SPECIES BY TAXONOMIC GROUP - SNAILS, VERTEBRATES, PLANTS, INSECTS   |
|--------------|---|
| <b>Tonga</b> | Black Rat ( <i>Rattus rattus</i> ), Brown Rat ( <i>Rattus norvegicus</i> ), Cat ( <i>Felix catus</i> ), Pacific rat ( <i>Rattus exulans</i> ), House mouse ( <i>Mus musculus</i> ), Jungle Myna ( <i>Acridotheres fusca</i> ), Red vented bulbul ( <i>Pycnonotus cafer</i> ), Pig ( <i>Sus scrofa</i> ),<br><br><i>Lantana camara</i> (Verbenaceae) – Lantana, <i>Leucaena leucocephala</i> (Leguminosae) – wild tamarind or lead tree, <i>Mikania micrantha</i> (Compositae) – mile a minute, <i>Panicum maximum</i> (Graminae) – guinea grass (Tongatapu), <i>Paspalum conjugatum</i> (Graminae) – T-grass or sour paspalum, <i>Psidium guajava</i> (Myrtaceae) – common guava, <i>Tradescantia (Rhoeo) discolor</i> (Spathaceae) (Commelinaceae – boat lily)<br><br><i>Culex quinquefasciatus</i> Say (Culicidae) – avian malaria mosquito or southern house mosquito, <i>Tilapia mossambica</i> – Tilapia,  |
| <b>Niue</b>  | Black Rat ( <i>Rattus rattus</i> ), Brown Rat ( <i>Rattus norvegicus</i> ), Pigs ( <i>Sus scrofa</i> ), Cat ( <i>Felix catus</i> ), Pacific rat ( <i>Rattus exulans</i> ), House mouse ( <i>Mus musculus</i> ), Dogs, ( <i>Canis familiaris</i> )<br><br><i>Adenanthera pavonina</i> (Leguminosae) Red bead tree or Red sandalwood tree, <i>Clerodendrum chinense (philippinum)</i> Honolulu rose shrub (Verbenaceae), <i>Fucraea foetida</i> (Agavaceae) Mauritian hemp, <i>Lantana camara</i> (Verbenaceae) Lantana, <i>Leucaena leucocephala</i> (Leguminosae) Wild tamarind or Lead tree, <i>Mikania micrantha</i> (Compositae) Mile-a-minute, <i>Mimosa invisa</i> (Leguminosae) Giant sensitive plant or Spiny mimosa, <i>Pennisetum purpureum</i> (Gramineae) Elephant grass, <i>Psidium guajava</i> (Myrtaceae) Common guava tree, <i>Sorghum halepense</i> (Gramineae) Johnson grass, <i>Stachytarpheta urticifolia</i> (Verbenaceae) blue rats tail or dark blue snakeweed, <i>Wedelia trilobata</i> (Compositae). Singapore daisy ( <i>Wedelia trilobata</i> ), Chain of Love ( <i>Antigonon leptopus</i> ), Honolulu rose ( <i>Clerodendrum chinense</i> ), Giant sensitive plant ( <i>Mimosa siplotricha=invisa</i> ), Taro vine ( <i>Epipremnum aureus</i> ), Bronzed-leaved Clerodendrum, ( <i>Clerodendrum quadriloculare</i> ), Mile-a-Minute (fue saina) ( <i>Mikania micrantha</i> ), Merremia (fue vao) ( <i>Merremia peltata</i> ), Hawaiian wood rose ( <i>Merremia tuberosa</i> )<br><br>Yellow crazy ant ( <i>Anoplolepis gracilipes</i> ), Fruit flies ( <i>Bactocers passiflorae</i> , <i>B.kiriki</i> , <i>B.xanthodes</i> ) |

|                                     |  |
|-------------------------------------|--|
| <b>Republic of Marshall Islands</b> | <p><b>Giant African Snail (<i>Lissachatina fulica</i>) (Kwajalein), <i>Subulina octona</i> (displace natives)</b></p> <p><b>Black Rat (<i>Rattus rattus</i>), Brown Rat (<i>Rattus norvegicus</i>), Pacific rat (<i>Rattus exulans</i>), House mouse (<i>Mus musculus</i>), Cat (<i>Felix catus</i>), Red-vented Bulbul (<i>Pycnonotus cafer</i>), monitor lizards (<i>Varanus indicus</i>), [feral dog <i>Canus lupis</i> – on some atolls tbc]</b></p> <p><b>Chain of Love (<i>Antigonon leptopus</i>), Chromoleana (<i>Chromoleana odorata</i>), Ivy Gourd Kiuri awia (<i>Coccinia grandis</i>), Merremia (<i>Merremia peltata</i>), Mile a Minute (<i>Mikania micrantha</i>), Sensitive Plant (<i>Mimosa pudica</i>), Spanish Needle (<i>Bidens pilosa</i>)</b></p> <p><b><i>Pheidole megacephala</i> (Formicidae) big-headed ant*, <i>Anoplolepis longipes</i> (Formicidae) – long-legged or crazy ant*,</b></p> <p><b><i>Gambusia affinis</i> – mosquito fish (Jaluit Atoll)</b></p> |
| <b>Tuvalu</b>                       | <p>Black Rat (<i>Rattus rattus</i>), Brown Rat (<i>Rattus norvegicus</i>), Pacific rat (<i>Rattus exulans</i>), House mouse (<i>Mus musculus</i>), [note - rodent occurrence on atolls variable], Cat (<i>Felix catus</i>)</p> <p><i>Yellow Crazy Ants</i>, (<i>Anoplolepis gracilipes</i>), <i>Anoplolepis longipes</i> (Formicidae) – long-legged or crazy ant*,</p> <p><i>Tilapia mossambica</i> – Tilapia</p>  |

**Notes:**

\*species probably occur in the other countries. For example, the little fire ant *Wasmannia auropunctata* may occur in any of the four countries and present a serious threat to biodiversity and other values.

\*\*comprehensive compilations of IAS are not available for most countries and available information is dated

8. In the proposed project countries, the management of IAS is not yet adequately addressed in terms of policy/legislation, professional capacity and active management. Thus, the impacts that IAS currently present and threats of future IAS introductions/incursions remain very high and is increasing as a result of poor biosecurity (national borders and internal) including pressure from globalisation and habitat disturbance such as for agriculture. In its analysis of the threats to biodiversity in the Polynesia-Micronesia Hotspot Ecosystem Profile (2007) (which includes all four countries in this project plus many of the other SIDs in the insular Pacific), IAS and habitat loss (in that order) were identified as the two most serious threats.

9. In addition to being implicated in the extinction of many native plants and animals (e.g. land mammals, birds, amphibians, snails, plants), IAS have also degraded native ecosystems and ecological communities, and caused a reduction in key ecosystem functions such as water provision (by obstructing waterways) and fisheries production (by degrading habitat, predating on native species, etc.). IAS also impact agricultural production (by infecting and/or competing with crops and other productive plants; infecting livestock), tourism (through diminishing the appeal of natural ecosystems or eliminating native species that attract tourists), trade and transportation, and other productive sectors. Because most island countries are highly dependent on natural resources production, introduced pests and weeds can seriously impact the agricultural and forestry sectors, and create regional or international trade barriers, leading to poverty and reduced priority given to conservation in national policies. IAS have also been known to endanger human health and decrease labour productivity (through allergies and poisonings and the transmission of pathogens).

10. The National Invasive Species Strategy and Action Plans (NISSAP's) for Niue, Tonga and Republic of Marshall Islands detail the priority actions necessary to mitigate the impacts of IAS (Tuvalu's NISSAP is in draft form). The NISSAP's will guide most of the work programme for this project and hence operationalise them.

## 2.2 Global significance

11. The project will support the conservation of biodiversity in the Pacific region, which will at the same time contribute to the global efforts to safeguard biodiversity. IAS is one of the major causes of biodiversity loss on Islands and in most Pacific SIDS they are the primary cause (in Papua New Guinea and Solomon Islands habitat destruction is still the main cause). The project will contribute to the reduction of threats to globally significant biodiversity by improving management, prevention and control of IAS; avoid extinction as a result of IAS management.

12. The Global significance of the four countries included in this project and two of the three sub regions in the Pacific have been documented in the Polynesia Micronesia Hotspot Ecosystem profile. Similarly, the Melanesia sub-region has been assessed in the East Melanesian Hotspot Ecosystem profile (see below). So, while the focus of the present project is on the four countries (three from Polynesia, one from Micronesia), they and the regional component will benefit globally significant values throughout the region. The four countries also represent three of the four main biogeographical types of islands – atolls (RMI and Tuvalu), volcanic islands (Tonga) and raised plateau/limestone (Niue). The fourth, continental islands (e.g. New Caledonia, Papua New Guinea), is arguably covered by Tonga because they also include volcanic systems.

13. The biogeography of the Pacific and its significance for biodiversity and its conservation has been eloquently summarized in the Polynesian Micronesian Hotspot profile (CEPF 2007) here compiled: “The geographic complexity and isolated nature of Pacific islands have led to the development of extremely high levels of endemism. The various mechanisms of island biogeography and its form of evolution are clearly evident in the Pacific which is relatively free from continental influences (Dahl 1986). However, the extreme vulnerability of island ecosystems and species to impacts such as habitat destruction and invasive species has resulted in the Pacific’s flora and fauna being amongst the most endangered in the world. In fact, species extinction rates in this hotspot approach the highest in the world, especially for birds (Steadman 1995) and land snails (Cowie 2001).

14. The present distribution of flora and fauna across the Pacific has resulted from the complex historical interplay of many factors in both time and space (Dahl 1984, Stoddart 1992). Endemism is a product of isolation, marginal environments, chance dispersal events like storms, and time (SPREP 1992). One of the key factors is the distance of an island from the major centres of evolution and distribution, such as Southeast Asia, the Indo-Malay Peninsula, Australia or America (MacArthur and Wilson 1967, Dahl 1980). The closer an island is to a centre of evolution, the greater the opportunity that species from that area will have been able to colonize it (Dahl 1980). Other factors influencing Pacific biogeography are island size, type and precipitation (Mueller-Dombois 2002) and deep-sea trenches, such as the Tonga trench (Stoddart 1992). The origins of most Pacific biodiversity are in Southeast Asia and New Guinea with a general attenuation in marine and terrestrial biodiversity from west to east. Thus, there are no native amphibians east of Fiji and there are no native terrestrial mammals east of the Cook Islands, except for a single Hawaiian sub-species (a bat which originated from the Americas). The eastward diminution of biodiversity reflects several factors. The filtering effect of the ocean would be expected to filter out species that are not adept at crossing ocean gaps. Furthermore, island size and rainfall generally decrease eastwards and the greatest complexity of island types occurs in the west with continental islands not occurring east of Fiji (SPREP 1992). Last but not least, humans, who played a major role in the dispersal of species into the Pacific, migrated predominately from west to east (SPREP 1992).”

15. Pacific islands are particularly vulnerable to invasive species; because of their isolation and relatively recent human occupation, native species have not evolved to cope with the impacts of predators, herbivores, insect pests, highly competitive weeds, and diseases brought in from continental

areas. As a result, Pacific islands face some of the highest extinction rates and threats to endemic species globally (CEPF 2007).<sup>1</sup> Of the 2,189 single-country endemic species recorded in the region, 5.3% are already extinct and 0.5% only exists in captivity, and of the remaining 2,062 extant species, 45% are at risk of extinction. The biggest threat to single-country endemic species classified under the IUCN Red List (IUCNRedList.org)<sup>2</sup> in the Pacific region is the spread of IAS (SPREP, 2014). Most, if not all, countries continue to experience incursions of new introduced/invasive species. The State of Conservation in Oceania 2013 Regional Report noted that “the extent of impact of invasive species across the 22 Pacific Island Countries and Territories was examined and the status was deemed to be poor, with only a small number of success stories overall: the majority of invasive species are not managed, are spreading, and continue to have devastating impacts on native species and ecosystems”.

16. Endemism is a product of isolation, marginal environments, chance dispersal events like storms, and long periods of elapsed time (SPREP 1992). The Critical Ecosystems Partnership Fund (CEPF) (2007) reports “plant, bird, and invertebrate diversity [in Polynesia and Micronesia] is particularly high, but diversity of non-volant mammals, reptiles, and amphibians is low. Overall [the sub-regions] is home to approximately 5,330 native vascular plant species (Allison and Eldredge 2004), of which 3,070 (58 percent) are endemic, 242 breeding native bird species of which approximately 164 (68 percent) are endemic, 61 native terrestrial reptiles, of which 30 (49 percent) are endemic, 15 native mammals, all bats, 11 (73 percent) of which are endemic, and three native amphibians, all endemic (Allison and Eldredge 2004). Although there are no true native freshwater fish, at least 96 marine species are found as adults in freshwater and 20 species are endemic (ibid). Knowledge of invertebrate diversity is very incomplete, but for many groups that have been studied, it is high. Land snail diversity is particularly high with over 750 species in Hawaii alone (Cowie 1996) and perhaps 4,000 species in the insular tropical Pacific (Cowie 2000).” A summary of the number of known native and endemic species to each country and taxonomic group is shown in Table 3.

17. The Western Pacific has reputedly the highest marine diversity in the world, with up to 3,000 species being recorded from a single reef (SPREP 1992). Overall, the Pacific region has the most extensive coral reef system in the world, the largest tuna fishery, and the healthiest remaining global populations of many marine species such as whales and sea turtles (UNESCO 2003a). Unlike the relatively depauperate terrestrial mammal fauna, the marine mammal fauna of the region is quite rich (Allison and Eldredge 1999). As with the terrestrial realm there is a gradient of decreasing numbers of species from west to east, but there is a second gradient from warm equatorial waters to more temperate waters away from the equator as well (Dahl 1984).

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<sup>1</sup> CEPF Ecosystem Profile: Polynesia-Micronesia Biodiversity Hotspot. 2007.

<sup>2</sup> Classified under the IUCN red list.

**Table 3: Terrestrial Species Diversity, Endemicity in the four project countries (data from CEPF 2007)**

| COUNTRY | NATIVE VASCULAR PLANTS |                 | BREEDING BIRDS |                 | NATIVE MAMMALS |                 | TERRESTRIAL REPTILIES |                 | NATIVE AMPHIBIANS |                 | NATIVE LAND SNAILS |                 |
|---------|------------------------|-----------------|----------------|-----------------|----------------|-----------------|-----------------------|-----------------|-------------------|-----------------|--------------------|-----------------|
|         | Known species          | Percent endemic | Known Species  | Percent endemic | Known species  | Percent endemic | Known species         | Percent endemic | Known species     | Percent endemic | Known species      | Percent endemic |
| RMI     | 100                    | 5               | 17             | 0               | 0              | 0               | 7                     | 0               | 0                 | 0               | >6                 | -               |
| Niue    | 178                    | 1               | 15             | 0               | 1              | 0               | 4                     | 0               | 0                 | 0               | -                  | -               |
| Tuvalu  | 44                     | 0               | 9              | 0               | 0              | 0               | -                     | 0               | 0                 | 0               | -                  | -               |
| Tonga   | 463                    | 5               | 37             | 5               | 2              | 0               | 6                     | 17              | 0                 | 0               | -                  | -               |

18. Another Biodiversity Hotspot in the region which will benefit from the regional component in the project is the East Melanesian Islands (including Solomon Islands, Vanuatu and Papua New Guinea - PNG). According to the Ecosystem Profile for this sub-region, it “*harbour[s] a diverse and unique group of flora and fauna. Among the hotspot’s endemic species are 3,000 vascular plants, 41 mammals, 148 birds, 54 reptiles and 45 amphibians. Notable endemic species include the majestic Solomon sea-eagle, several species of flying fox and the giant, prehensile-tailed Solomon Islands skink*”. The hotspot is a terrestrial conservation priority, and habitats include coastal vegetation, mangrove forests, freshwater swamp forests, lowland rainforests, seasonally dry forests and grasslands, and montane rainforests. Natural habitats extend from mountain ridge to reef, although they are fragmented by agricultural conversion and logging in many places. These “ridge-to-reef” ecosystems are notable for their resilience to the effects of climate change and for delivering a wide range of ecosystem services to human communities. In addition to their terrestrial biodiversity values, the East Melanesian Islands lie partly within the Coral Triangle, whose ecosystems support 75 percent of known coral species and an estimated 3,000 species of reef fish. Thus, the geographic scope of the hotspot is considered to include nearshore marine habitats, such as coral reefs and seagrass beds, in addition to terrestrial habitats.”

19. The last regional IAS project was completed in 2016 culminating in its Terminal Evaluation in 2017 (Thomas 2017). This project was originally designed for 10 Pacific SIDS but reduced to 9 when the largest, PNG withdrew. It focussed on in-country projects and demonstrated the need for a coordinating and technical support mechanism which could work at regional level guiding and informing national projects while ensuring best practices and knowledge is shared from within and outside of the region. Thus, the present project will lift IAS and biosecurity efforts to the next level of attainment by demonstrating proof-of-concept of the most efficient and cost-effective way to mitigate the impacts and threats posed by IAS to Biodiversity Conservation, human welfare and agriculture both on land and in near-shore Pacific SIDS. The proposed land-based activities will have a ripple effect on adjacent coastal habitats and the overall effort will contribute to protecting globally significant biodiversity and habitats.

## 2.3 Threats, root causes and barrier analysis

### **Threats**

20. The proposed project will take place primarily in four countries in the Pacific - the Kingdom of Tonga, Niue Island, the Republic of the Marshall Islands and Tuvalu. Like most small island developing states, these four nations are highly vulnerable to the impacts of Invasive Alien Species (IAS) on their biodiversity, ecosystem functioning, resilience to climate change impacts, economic productivity, and human health. IAS, which have been defined as “introduced [hence “alien”] species (plants, animals and other organisms taken beyond their natural range by people, deliberately or unintentionally) that become destructive to the environment or human interests”. (SPREP 2016). IAS are the second biggest drivers of biodiversity loss worldwide, second only to habitat destruction. The native flora and fauna of oceanic islands throughout the world are highly vulnerable to biological invasions because they have experienced long periods of evolution in isolation from the threats faced by plants and animals that have evolved on continents. Hence island biota has not co-evolved with many species which, when introduced over a relatively short period of time can take advantage of native species’ vulnerability. Furthermore, populations of native species on isolated islands are relatively small and are not as resilient as large populations on continents which may be spread over large areas with high habitat variability. Further, they often have not co-existed with predators such as mammals before these were introduced by humans (this is true for the four countries of focus in this project). Thus, the intensity of human impacts on the small land areas of islands, make the situation worse by increasing most islands' susceptibility to invasion (United States Navy 2015). The human impacts may be deliberate or accidental because of increased international economic and cultural links in areas as agriculture, horticulture, transport and trade (commodities, containers, equipment and packaging); tourism including ecotourism, yacht and cruise ship traffic, floating plastic pollution, and industrial developments including the movement of used industrial plant equipment.

21. In addition to being implicated in the extinction of many native plants and animals (e.g. land mammals, birds, amphibians, snails, plants), IAS have also degraded native ecosystems and ecological communities, and caused a reduction in key ecosystem functions such as water provision (by obstructing waterways) and fisheries production (by degrading habitat, predating on native species, etc.). IAS also impact agricultural production (by infecting and/or competing with crops and other productive plants; infecting livestock), tourism (through diminishing the appeal of natural ecosystems or eliminating native species that attract tourists), trade and transportation, and other productive sectors. Because most island countries are highly dependent on natural resources production, introduced pests and weeds can seriously impact the agricultural and forestry sectors, and create regional or international trade barriers, leading to poverty and reduced priority given to conservation in national policies. IAS have also been known to endanger human health and decrease labour productivity (through allergies and poisonings and the transmission of pathogens).

*The following factors and root causes predispose the countries and the region to the threats posed by IAS:*

22. Pacific island ecosystems make up one of the world’s biodiversity hotspots, with high levels of endemism. However, Pacific islands are particularly vulnerable to invasive species; because of their isolation and relatively recent human occupation, native species have not evolved to cope with the impacts of predators, herbivores, insect pests, highly competitive weeds, and diseases brought in from continental areas. As a result, Pacific islands face some of the highest extinction rates and threats to

endemic species globally (CEPF 2007)<sup>3</sup>. Of the 2,189 single-country endemic species recorded in the region, 5.3% are already extinct and 0.5% only exist in captivity, and of the remaining 2,062 extant species, 45% are at risk of extinction. The biggest threat to single-country endemic species (*sensu* IUCN Red List) in the Pacific region is the spread of IAS (SPREP, 2014). Most, if not all, countries continue to experience incursions of new introduced/invasive species. The State of Conservation in Oceania 2013: Regional Report noted that “the extent of impact of invasive species across the 22 Pacific Island Countries and Territories was examined and the status was deemed to be poor, with only a small number of success stories overall: the majority of invasive species are not managed, are spreading, and continue to have devastating impacts on native species and ecosystems”.

23. In the four countries participating in this project the following IUCN Red List species stand to benefit from the project’s activities/outputs which mitigates their main threat from IAS. Tonga – friendly ground-dove (*Alopecoenas stairi*) (Red List category vulnerable), Tongan whistler (*Pachycephala jacquinoti*) (Red List category Near Threatened); Marshall Islands – Boettger’s Emo skink (*Emoia boettgeri*) (Red List category Endangered), Micronesia saw-tailed gecko (*Perochirus ateles*) (Red List category Endangered), Micronesian Imperial pigeon (*Ducula pacifica rataakensis*) (not IUCN Red List cited but, as a sub-species, could be considered Critically Endangered). Two turtle species with a regional distribution will also benefit: Green turtle (*Chelonia mydas*) (IUCN Red List Endangered) and Hawksbill turtle (*Eretmochelys imbricata*) (IUCN Red List Critically Endangered).

24. In the Pacific region, 87% of recorded introduced species are plants, 10% animals and 3% other taxa. Terrestrial ecosystems are the most invaded followed by freshwater and marine. However, there is a lack of information about introduced and invasive species in marine ecosystems. Invasive plants have had a profound impact on forest structure and composition, causing reductions in native plant diversity, changes in soil fertility, altered nutrient cycling and increased erosion. At least 30 invasive plants are considered to have become serious threats to native habitats on Pacific islands. Invasive animals such as pigs, cattle and goats degrade forests by eating or damaging tree seedlings; invasive mammals such as rats, cats, mongooses and dogs have greatly reduced the number of native bird species; invasive birds can spread invasive plants in their droppings and outcompete native bird species; invasive ants have significantly reduced populations of crabs, snails and aquatic and semi-aquatic invertebrates; and invasive land snails have decimated native snail species. In the marine environment, IAS have been known to impact native species through predation and competition for food and habitat and to impact ecosystem functioning through altering natural cycles and habitats. The threats to biodiversity from marine IAS, both deliberate and accidental introductions (e.g. in contaminated ballast water or as encrusting organisms on ships), are an increasingly serious, but very poorly understood, threat throughout the region.

25. Climate change, sea level rise and extreme weather events (e.g. tropical depressions, drought etc) will exacerbate the impacts of IAS. It is generally agreed that Climate Change will increase the severity and probably frequency of storm events in the Pacific (e.g. ABM and CSIRO 2014, Walsh *et al.* 2012) while rises in sea-level also increase the impacts of king-tides and storm surge. Cyclones/hurricanes destroy natural vegetation (and coral reefs) opening them up to invasion by weed or algal species which are often already present on-island and able to capitalise on the opportunity afforded. This situation is further exacerbated with the presence of established IAS which can prevent the recovery of native species by out competing them for space and nutrients. The implications of small scale are again significant because large storm events, king tides, sea level rise etc. tend to affect the entire SIDS. By the same token, the resilience to climate change for Pacific SIDS will be enhanced if IAS can be prevented from establishing and by controlling or eradicating them. For example, it has

<sup>3</sup> CEPF Ecosystem Profile: Polynesia-Micronesia Biodiversity Hotspot. 2007.

been observed that catchments dominated by introduced “Tamaligi” (*Falcataria moluccana*) – an adventive shallow rooted, massive fast growing legume common in Samoa – easily uproots in heavy rain leaving hillsides denuded and more vulnerable in future plus damming downstream only to burst and cause dangerous flood peaks lower down.

26. There are several intrinsic factors that predispose this region to IAS. Many of these cannot be changed but systems and policies can be factored in to ensure that their effects are minimized. Global connectivity, especially the marine environment, makes the region vulnerable. This connectivity is increasing with increasing shipping traffic for trade and tourism. The region has a naturally high vulnerability to IAS due to geophysical and ecological complexities such as high border to land ratio, and steep hilly inaccessible terrain that effectively provides safe-havens.

27. Other aspects of the geophysical and ecological complexities include the relatively low buffer capacity of small islands to severe environmental fluctuations and events. Native species often become concentrated in small and fragmented areas. At these marginal breeding sites, they are subject to various natural and anthropogenic pressures that endanger their survival – including invasive species. Species that have evolved on islands have done so free from competition with large numbers of other species and therefore lack adequate defences and are susceptible to invasions by alien species. Some endangered species have below critical mass breeding populations. Their interchange is further restricted by habitat fragmentation.

28. Decision makers lack awareness and quantified information to influence policy on IAS control. Many SIDS lack coordination at the national level and this becomes both a cause and an effect of weak policy frameworks to address IAS. Practically, there are limited capacity and effective tools to prevent, control and manage IAS especially in a reactive context. Finally, there is insufficient collaboration and coordination between Pacific states regionally – something this project will help build.

29. Indigenous communities have poor awareness about the danger of IAS and lack capacity to protect endemic species. Hence, protection of biodiversity becomes one of the last priorities of local governance structures, which need to primarily address challenges of poverty, youth migration, lack of infrastructure and underfunding for basic services. Gender relations play a key role in the access to and use of biological resources, as well as their management within protected areas and in production landscapes. Women and men often have different knowledge about, and preferences for, plants and animals. Women’s roles in seed selection, seed saving, and use of wild plants for food and medicines play a major role in biodiversity conservation. Creation of protected areas often causes conflict, as women in particular could face challenges in performing daily tasks within the protected area, unless alternative options are provided (GEF 2013). In some Pacific countries women are primarily responsible for food supply in their households and more involved in horticulture and domestic animal husbandry to ensure daily food supply (UN Women 2016). However, they are not always involved in decision making, capacity building, design and implementation of biodiversity protection measures (GEF 2013).

### **Barrier Analysis**

30. In spite of having developed National Invasive Species Strategy and Action Plans (NISSAPs), most SIDS do not have the technical capacities or partnerships in place to implement the plans, nor have they established technical advisory groups to guide such work and to ensure the involvement of relevant sectors. The lack of adequate information and data on IAS, and their impact on biodiversity, is another key barrier, including the fact that most information on the status and distribution of invasive species has not been confirmed with ground surveys, and that there is little information on the relationship between areas of IAS spread and biodiversity hotspots. Because of this lack of



information, none of the target countries has established clear protocols for assessing IAS risk or for prioritising IAS management interventions.

31. Furthermore, not enough emphasis is being placed on prevention (versus control and eradication). Biosecurity, including risk mitigation, prevention and Early Detection and Rapid Response (EDRR) measures, has been poorly supported to date (see Tables 3 and 4, Figure 2) and is generally weak in all four countries; as a result, IAS continue to be introduced into and spread within the target countries at an alarming rate. While the countries have put more resources into IAS control, eradication and restoration efforts, there remains very limited practical experience with biosecurity measures in the region. Hence, the development of best practices and established cost-effective protocols is sorely needed to increase support for and improve implementation of these measures. In addition, while successes and failures in IAS control and eradication have been recorded, they have yet to be compiled and disseminated across the region. In addition, while various databases on invasive species in the region exist, there is no comprehensive regional information system or mechanism linking such information to risk assessments, prioritization and best IAS management practices. The SPREP based *Battler Resource Base* and *Battler Series* is in its infancy (and due to be developed within component four of this project). Formal mechanisms for sharing best practices on IAS management are largely bilateral, so that countries face significant challenges in locating information, synthesizing it and deciding on actions to take to solve invasive species issues as they develop.

**Table 4: Spending by Country (2010-2015) in USD\***

| COUNTRY          | PREVENTION       | CONTROL/<br>MANAGEMENT | ERADICATION      | GENERAL<br>IAS   | TOTAL             |
|------------------|------------------|------------------------|------------------|------------------|-------------------|
| Cook Islands     | 291,393          | 1,378,236              | 327,427          | 69,000           | <b>2,066,056</b>  |
| Fiji             | 35,280           | 400,934                | 652,250          | -                | <b>1,088,464</b>  |
| FSM              | -                | -                      | 50,000           | 61,180           | <b>111,180</b>    |
| Kiribati         | 245,005          | 35,000                 | 1,230,479        | 165,561          | <b>1,676,045</b>  |
| Niue             | 50,000           | 157,000                | 30,000           | 77,040           | <b>314,040</b>    |
| Palau            | 17,000           | 24,775                 | 951,802          | 39,180           | <b>1,032,757</b>  |
| RMI              | 6,549            | 12,000                 | -                | 54,631           | <b>73,180</b>     |
| Samoa            | 75,000           | 173,398                | 286,040          | 75,642           | <b>610,080</b>    |
| Tonga            | 17,131           | 159,891                | 200,000          | 192,397          | <b>569,419</b>    |
| Vanuatu          | 67,506           | 310,079                | 59,427           | 166,028          | <b>603,040</b>    |
| Regional         | 157,488          | 391,344                | 70,000           | 2,072,666        | <b>2,691,498</b>  |
| Easter Island    | -                | 40,068                 | -                | -                | <b>40,068</b>     |
| New Caledonia    | -                | 280,000                | 50,000           | -                | <b>330,000</b>    |
| French Polynesia | 88,638           | 750,000                | 1,369,745        | -                | <b>2,208,383</b>  |
| Tokelau          | -                | -                      | -                | 31,000           | <b>31,000</b>     |
| <b>Total</b>     | <b>1,050,990</b> | <b>4,112,725</b>       | <b>5,277,170</b> | <b>3,004,325</b> | <b>13,445,210</b> |

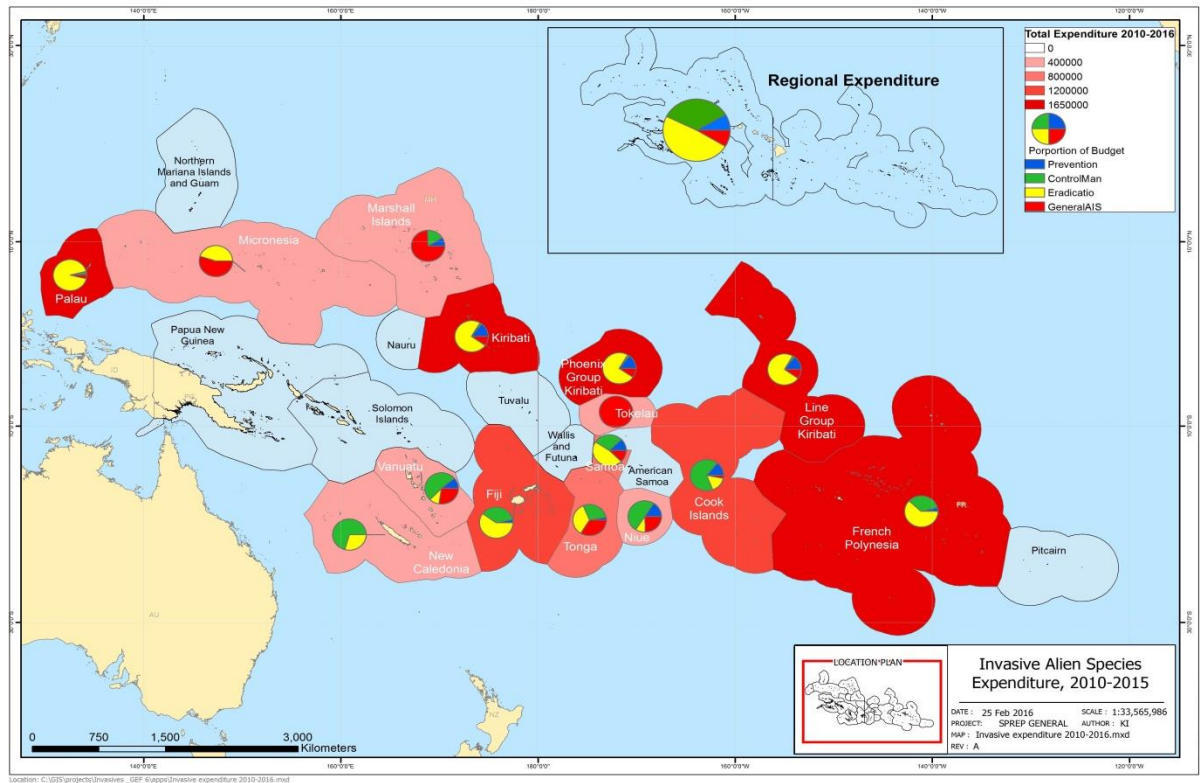
\* The data in this table includes inputs from the primary known funders of IAS management activities in the insular Pacific, but it is likely that it does not include all the funds spent on IAS in the region. However, it is believed to fairly represent the relative expenditure between the four categories. Source – UN Environment Project Identification Form for the current project.

**Table 5: Spending by Funder (2010-2015) in USD\***

| DONOR                          | PREVENTION       | CONTROL/<br>MANAGEMENT | ERADICATION      | GENERAL<br>IAS   | TOTAL             |
|--------------------------------|------------------|------------------------|------------------|------------------|-------------------|
| GEF PAS                        | 416,783          | 655,365                | 315,333          | 1,634,337        | <b>3,021,818</b>  |
| CEPF                           | 574,207          | 1,037,360              | 981,837          | 644,988          | <b>3,238,392</b>  |
| NZ MFAT                        |                  | 1,000,000              |                  |                  | <b>1,000,000</b>  |
| RSPB                           | 40,000           |                        |                  |                  | <b>40,000</b>     |
| Birdlife International Pacific |                  | 1,420,000              | 2,480,000        |                  | <b>3,900,000</b>  |
| Island Conservation            |                  |                        | 700,000          |                  | <b>700,000</b>    |
| Packard Foundation             |                  |                        | 800,000          |                  | <b>800,000</b>    |
| PILN (SPREP)                   |                  |                        |                  | 725,000          | <b>725,000</b>    |
| SOP Manu RFPBS                 | 20,000           |                        |                  |                  | <b>20,000</b>     |
| <b>Total</b>                   | <b>1,050,990</b> | <b>4,112,725</b>       | <b>5,277,170</b> | <b>3,004,325</b> | <b>13,445,210</b> |

\* The data in this table includes inputs from the primary known funders of IAS management activities in the insular Pacific, but it is likely that it does not include all the funds spent on IAS in the region. However, it is believed to fairly represent the relative expenditure between the four categories. Source – UN Environment Project Identification Form for the current project.

**Figure 2: Map of Previous & On-going IAS Spending / Programmes in the Pacific Region**



### *Pathways for introducing IAS*

32. A systematic analysis of IAS pathways in the Pacific has been carried out by Green (2004) who identifies the main vector routes for each country and the principal IAS involved (except marine). Thus, vector analyses have been carried out for each country in the region including the four in the present project which has informed the selection of outputs and activities for this project. Vector routes (or pathways) and methods of IAS dispersal have been identified for the region and how various species present risks have been described (also in Sherley (2000)). Green's analysis identified a number of transport hubs in the region which should act as foci for high levels of biosecurity. These included Fiji and Guam which serve directly all four countries in this project plus the rest of the region. Fiji and Guam have many direct air links with Asia and the USA while Guam also has the US Andersons Airforce Base and its Apra Bay Guam Naval base. These form bridges throughout the world and thence to elsewhere in the Pacific. As well as military and commercial traffic, Fiji also is a hub for itinerant yacht visits with at least 585 visits per year (2004 data). In a similar vein, shipping hubs occur in New Caledonia and Papua New Guinea which create entry points for IAS which may be carried by ships either in/on cargo and/or as ballast water and hull fouling. Fishing ports such as Pago Pago (American Samoa) are also hubs for potential entry of IAS into the region via hull fouling given their international wide-ranging movements.

33. While Green's (2004) data are now dated in terms of actual numbers of visits, they do show trends which are probably true in 2017: most merchant shipping traffic in the Pacific (over 500 visits per year) is handled by Fiji, Guam, New Caledonia, Northern Marianas and Papua New Guinea while French Polynesia and Samoa handle over 200 visits; most oceanic fishing vessel visits are received by American Samoa, Federated States of Micronesia, Fiji, Guam, Kiribati, Marshall Islands and Palau (with FSM receiving over twice as many visits as any other country and Marshall Islands and Kiribati being approximately second equal); most cruise liners are received (in order) by New Caledonia (55 per year in 2004), Vanuatu, Fiji, French Polynesia and Tonga (14); finally itinerant yachts' rate of visits per annum show similar patterns – Tonga (900 – over 300 more than Fiji), Fiji, New Caledonia, French Polynesia and Vanuatu. Thus the countries receiving most visits from all types of vessels and acting as principle hubs include Fiji and New Caledonia. Fiji in turn channels cargo and acts as a transit destination for three of the countries in this project and most of the western south Pacific. With respect to air traffic – again Guam and Fiji are principle hubs but many other countries have significant numbers of international flights weekly.

34. In addition, to the above pathways that introduce IAS that affect crops and as well as other endemic and naturalized plant life, tourism, air, sea and land transport are important pathways for the introduction of exotic species. The aquaria and pet trade are also important pathways for introduction of potentially invasive marine and terrestrial species. Ballast water is a significant pathway that is now governed by an international treaty. The movement of used vehicles and tires has also been shown to introduce IAS that potentially pose serious threats to livestock and human health. In summary the numerous pathways for the introduction of IAS into this region is a key risk for IAS that pose a threat to native biodiversity.

35. In the 4 target countries, there are several barriers to effective implementation of NISSAPs and improving biosecurity. These are explained in detail below:

### *Insufficient scientific data*

36. Insufficient scientific data is directly related to the limited inspection, surveillance, identification and research on IAS at the national level in the Pacific. At the international and regional levels there are many organisations dealing with IAS which host databases and web sites for information management, public awareness and regional and international collaboration to address IAS issues. There are also “tools” such as pathway risk assessment models, biocontrol species selection methods – the latter specifically customised for the Pacific. Invasive species lists and management methods are also available such as the Global Invasive Species Database which gives technical accounts of IAS found in the region and measures for managing the risks they pose and even control and eradication procedures. Many countries also have IAS species lists (which are not necessarily kept up to date) which have been compiled by experts since the late 1990’s. Other technical resources on IAS relate to the agricultural sector and have been produced by the likes of the FAO (e.g. FAO 2016) to help guide practitioners and the biodiversity sector (with wider application) such as the SPREP “Battler” series ([www.sprep.org](http://www.sprep.org) – invasive alien species). However, most of these data and resources are disparate and there are significant gaps in technical information required to properly manage IAS and meet modern biosecurity standard practices and protocols. This project will fill some of those gaps and more significantly set up a cohesive mechanism bridging the available resources within and outside of the Pacific region and bring them to bear on managing and eradicating IAS and implementing biosecurity systems in-country. It will add to the “Battler” series to create a comprehensive single-point knowledge nexus covering all aspects of IAS prevention, control and eradication plus all aspects of Biosecurity (border quarantine, EDRR, statutes and regulations/protocols etc.).

37. While for some groups of IAS (especially plants, to some extent arthropods) there are species lists for each country, their data/information are simply presence/absence type. Thus, there is insufficient information about the extent of invasions (as provided by delimiting surveys after an incursion), the rate of spread and hence the degree of threat posed by a particular IAS. In turn this negatively affects response planning and setting priorities. Further, the utility of such tools as risk assessment modelling and IAS response plans are severely limited by the absence of distributional data. In general, efficient and effective management and prevention of the deleterious effects of IAS requires reliable quantified distributional data and these are seriously lacking in the Pacific SIDS including the four country projects.

38. Many regional and international organisations such as the Pacific Community (SPC), SPREP, FAO, Pacific Invasives Initiative (PII), Pacific Invasives Learning Network (PILN), Pacific Ant Protection Programme (PAPP), The Food and Agriculture Organization (FAO), Government of New Zealand (Department of Conservation), Federal Government of Australia have been variously involved in IAS over many years. Again, there has been a lack of continuity of engagement for any one agency or coordination between them. The current project will attempt to facilitate coordination between agencies that retain an interest in IAS and biosecurity; the project is ideally placed to do this with the Secretariat of the Pacific Regional Environment Programme (SPREP) as the Executing Agency (EA).

### *Limited technical capacity and effective tools to prevent, control and manage IAS*

39. The Pacific region is fortunate to have an established IAS management framework – the “Guidelines for Invasive Species Management in the Pacific: a Pacific Strategy for managing pests, weeds and other invasive species”<sup>4</sup> (referred to hereafter as the “Guidelines”), which is a policy and strategy setting document that countries can use to guide the development and implementation of

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<sup>4</sup> [http://www.sprep.org/att/publication/000699\\_RISSFinalLR.pdf](http://www.sprep.org/att/publication/000699_RISSFinalLR.pdf)

specific IAS management activities, procedures and protocols. The Guidelines have been endorsed by all 21 Pacific member states and their five supporting “metropolitan” countries (SPREP, 2009). However, the lack of financial, technical and human resources and capacities needed to implement programmes under this management framework is a significant barrier to effective IAS management in the target countries. Since the late 1990’s, the response to IAS in the Pacific has been progressive but fragmented and insufficient to address the scale of the threat posed by IAS. Most countries in the Pacific still have little experience in implementing many specific types of IAS management activities (significantly – pest management, eradication, Early Detection and Rapid Response and inter-island biosecurity), and almost none have the experience or capacity needed to implement the complex, technical and varied interventions that are needed to protect biodiversity at a given site from invasive species, particularly if they must be implemented across many islands and communities and up to the highly technical modern standards which ensure efficacy, public safety, Monitoring and Evaluation. For example, a single IAS management program may require equipment for weed management, predator control, fencing, monitoring, awareness raising, and community outreach and participation, with each element requiring considerable expertise in logistics, procurement, training, technical experience, health and safety and others.

40. While various databases on invasive species in the region exist, but there is no regional information system linking such information to risk assessments and prioritization of IAS management practices, nor any comprehensive mechanisms for sharing best practices on IAS management, so that countries face significant challenges in locating, synthesising and deciding on actions to take to solve invasive species issues as they develop.

41. The best strategy for dealing with IAS is prevention. To prevent the introduction of an IAS a country must be very proactive. A high level of surveillance must occur at ports of entry. In almost all islands of the Pacific the human resources dedicated to surveillance activities for IAS is limited to a few plant quarantine officers, and few public health and veterinary officers. The range of IAS from microbial, viruses, insects, plants and animals that are specific to Terrestrial, Fresh Water, and Marine ecosystems requires continuous updating of skills of those involved in surveillance activities to be equipped to be able to conduct effective surveillance.

42. The small size of the PICTs necessarily means there are very few practitioners on-island (sometimes none) and because of the dispersed distribution of countries there is very little dialogue between nations with practitioners. The region in turn is isolated from centres of technical excellence and know-how which are distributed around the Pacific ring such as occur in New Zealand, Australia and the United States of America. Modern IAS management and eradication techniques are now highly evolved and require highly skilled and trained practitioners – even to keep up with continually changing methods for best practice and knowledge. The design and up-keep of a network which is necessary to link individuals or small groups of practitioners in-country with the latest technical advice on methods, safe practice, project design and implementation etc. has been initiated somewhat piecemeal in the past (e.g. the PILN which is in abeyance at time of writing due to lack of funding) in the sense that attempts have addressed only elements of the whole package required (e.g. training) but not the full range of support required (e.g. additionally project planning/design, implementation, scientific research etc.) nor over a concerted length of time thus ensuring comprehensiveness and continuity for in-country support.

43. The shortage of technically trained personnel is linked to the current economic conditions which result in fewer staff being hired and little if any successional planning when positions related to IAS are vacated. Also, it is extremely difficult to create new positions. Of the participating countries in this project, only Tonga has a designated Chief Invasive Species Officer or any dedicated public officer.

Similarly, while the majority of SIDS have dedicated IAS/biosecurity committees charged with coordination and oversight of implementation of NISSAP's, these need technical support while they become established and fully operational. This project will support NISSAP reviews (or completion in the case of Tuvalu) and operationalise them by helping to set up in-country projects and the support mechanism from the regional component. This support will include training / capacity building to redress the lack of capacity development (e.g. Tuvalu has literally no IAS capacity or a completed NISSAP, national committee etc.).

44. Tools and infrastructure are also lacking. None of the participating countries have an effective database to record or share information on interceptions at air and seaports to assist in surveillance activities. The physical infrastructure in most countries is unable to meet the needs for the application of sanitary and phytosanitary (SPS) measures and quarantine functions to protect against the introduction of new pest and diseases for the agriculture sector. For example, none of the participating countries have a functional incinerator that can destroy any unauthorized risky imports that may contain IAS in passenger luggage at air or seaports.

#### *Weak Legal and Policy framework resulting in poor National and Regional Coordination*

45. Ideally, to deal effectively with the issue of IAS, a legislative framework must be in place to give inspection and surveillance authorities and their staff the legal right to seize and destroy any material that could potentially introduce invasive species into an area. This legal/policy framework must also recognise the cross-border requirements to effectively tackle IAS and encourage countries to cooperate and collaborate to effectively combat the issue. This could only be achieved through effective coordination at the national, regional and international levels. There is a wide range of agencies at the national level that need to work together who have not traditionally cooperated. These include agriculture, health, trade, tourism, education, environment and the information and communication sectors. This cross sectoral communication and networking is largely lacking both within and between countries albeit there has been steady improvement since the start of the SPREP IAS programme in 1998.

46. In the proposed project countries, the management of IAS is not yet adequately addressed in terms of policy/legislation, professional capacity and active management and as such the impacts that IAS currently present and threats of future IAS introductions/incursions remains very high and is increasing as a result of land degradation and globalization. To effectively combat this problem requires close collaboration of all the stakeholders from both the public and private sectors to coordinate and implement action and policies, for successfully combating the negative impacts of IAS on the various economies. However, such a mechanism does not exist. Unfortunately, even within a single Ministry there is little coordination across departments significantly reducing the efficacy of the limited actions that are in place. Importantly also is the very weak to non-existent coordination and collaboration between the public and private sectors. There are some exceptions where there is very good collaboration between public entities and the NGO community such as in Tonga (Vava'u Environmental Protection Association and Ministry of Environment).

47. Within many countries of the Pacific region the legal framework in these SIDS are either deficient (e.g. Nauru, Solomon Islands, Kiribati) or have excellent statutes (such as Niue and Tuvalu) but are poorly implemented and awareness and enforcement are lacking. While several pieces of legislation such as plant quarantine acts; environmental protection legislation, prevention and control of zoonosis; food safety legislation; and human health may all contain aspects applicable to the control and management of IAS, their adequacy is highly variable between countries. Hence there is a need to review national legislation and regulations and if necessary formulate improvements (or in some cases

new statutes) in the four countries and make this available for modelling elsewhere in the Pacific. It is expected that support for the latter will be available from Governments of New Zealand and Australia who have model legislation, systems and processes in place.

48. The problem of poor legal and policy frameworks is compounded by inadequate enforcement which could in turn be exacerbated by a general increase in serious crimes against people and property which is taking most of the attention of law enforcement away from enforcing environment regulations. Awareness of issues such as IAS their impacts on the environment is also lacking among all arms of the legal fraternity such that if someone is brought to the courts for and infringement against environmental regulations the punishment may not be severe enough to serve as a deterrent. The training offered by this project (e.g. Early Detection and Rapid Response course) will emphasise the importance of enforcement and raise the awareness of the consequences of non-compliance to the countries' biosecurity.

49. The enactment and implementation of harmonised legislation based on international standards and conventions will enable Pacific countries to meet the requirements of international conventions such as Convention on Biological Diversity; the World Trade Organisation (WTO) Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement), and the International Maritime Convention on Ballast Water Management (Globallast) and also have the necessary precautions in place to limit the introduction of invasive species.

#### *Inadequate awareness and information*

50. Public and political awareness of the threats posed by IAS is low in the Pacific SIDS. This is exacerbated by a lack of high quality quantitative authoritative information on the impacts of IAS and the risks they pose to the economy, human health and native biodiversity. IAS has been publicised in the past nationally and regionally (e.g. annual SPREP Meetings) but in an ad-hoc manner – without continuity or based on solid information. Coordinated professional public awareness campaigns are required which use compelling data from authoritative research to persuade the public and political decision-makers.

51. Mechanisms are required to systematically measure the success of IAS management and the benefits which accrue to biodiversity conservation, the economy and human health. The information generated needs to be used to advocate for further IAS prevention, management and eradication (where appropriate). The process should result in better long-term commitment to meeting the IAS/Biosecurity issue – particularly mainstreamed funding which is missing in most SIDS administrations.

52. Insufficient funding is an issue in all the above barriers. In the past, projects have temporarily brought funding to meeting the IAS/biosecurity needs of the Pacific SIDS. What is required is a network of inter-dependant components within country, supported by regional agencies. Components in-country include a national body charged with the responsibility of implementing the NISSAP, government officers in appropriate agencies/Ministries (e.g. Environment, Agriculture, Border Control) charged with enforcing/implementing relevant statutes and regulations, public education and awareness (capturing the support of educationalists and CSOs) and communities/villages. When these are working together impetus is achieved for mainstreaming the financial needs of these inter-dependent components into government budgets and attracting further external support because they are inter-dependant – one generating support for the other. The present project aims to demonstrate how these components can work together to generate core/long-term funding.

### *Extreme large scale and dispersed distribution of SIDS in the Pacific*

53. The region includes 22 countries and territories including 550,000km<sup>2</sup> (or 87,587km<sup>2</sup> excluding Papua New Guinea) of land, 30 million km<sup>2</sup> of the Pacific Ocean, an area more than three times the area of the United States of America or China. The land area is only about 1.8% (SPREP 1999) but is made up of at least 30,000 thousand islands and islets. More than 2,000 languages are spoken in the region (Thistlewaite and Votaw 1992). The enormity of the region and the distribution of the tiny island states in it (e.g. the smallest state, and one of the four countries in this project, is Niue with a population of between only 1200 and 1500) creates a massive logistical problem for coordination and collaboration required to drive a programme to mitigate a cross-cutting issue like IAS and biosecurity because as described above the disparate countries are nonetheless connected by modern transport through nodes including Guam, Noumea (New Caledonia) and Suva (Fiji). In order to have any hope of dealing with the sheer scale of the problem of IAS/biosecurity in the Pacific, mandated regional agencies such as SPREP and SPC who are partners in regional environmental issues are essential to provide the support required at necessary scale.

### *2.4 Institutional, sectoral and policy context*

#### **Regional Policy context**

54. In the Pacific the only inter-state alliance immediately affecting trade and travel is between Palau, Federated States of Micronesia and the Republic of Marshall Islands (the latter being part of this project). This alliance is mediated through the Micronesian Presidents' Summits whose agenda in the past has included supporting projects with an IAS/Biosecurity component such as the GEF PAS Micronesia Challenge (part of a bigger programme which has covered transport and trade – harmonising policies) and specific IAS/biosecurity issues (e.g. Coconut Rhinoceros Beetle – which has included inter-state border security actions).

55. The Pacific Islands Forum (PIF) is a Pacific regional inter-governmental organisation to which all four countries of the project belong as full member states (as distinct from associate members like Tokelau, Observer states and Dialogue Partners). The Pacific Islands Forum Secretariat chairs the PIF and has four Divisions building capacity of member states – two of which relate to IAS/Biosecurity – Development and Economic Policy and Trade and Investment. These Divisions advise countries on matters such as the Pacific Island Countries Trade Agreement (aiming to establishing a free-trade area between 14 of the PIF countries). The twelve signatory and ratifying countries include Niue, Tonga and Tuvalu with Niue having established domestic arrangements allowing trade under the agreement. Similar agreements are pipelined most notably including “PACER Plus” (Pacific Agreement on Closer Economic Relations including Niue, RMI, Tonga and Tuvalu) which is a proposed wider trade agreement including Australia and New Zealand. However, it and other proposals are still in progress at time of writing. The trade agreements all have significant implications for Biosecurity and the risks of IAS establishing.

#### **Regional Institutional context**

56. There are two principle regional agencies that address the issues of IAS and biosecurity directly – SPREP and SPC. They have differed in emphasis as above. UN Environment (formally UN Environment Programme), FAO and United Nations Development Programme (UNDP) have also been less directly involved either acting as Implementing Agencies for GEF or agency funded projects which have included IAS/Biosecurity elements (e.g. the GEF 5 “Ridge to Reef” projects which includes all GEF eligible PICT's). FAO has provided specific products such as the “Manual for



Mainstreaming ecosystem services and biodiversity into agricultural production and management to minimise dependency on agro-chemicals in the Pacific”, as has SPREP (e.g. the “Battler” series and IAS resources available on-line). Academic organisations in the region such as the University of the South Pacific and Bishop Museum (Hawaii) have contributed to the literature on IAS and Biosecurity in the Pacific (e.g. see Sherley 2000). The US Forest Service has also provided technical information (e.g. see Denslow *et al.* 2009). There is a strong “follow on” benefit from work done in the USA affiliated Pacific including the State of Hawaii’s IAS and Biosecurity programmes plus the famous (infamous) Brown Tree Snake programme in Guam. Thus, there has been significant institutional/government investments in IAS/Biosecurity in the Pacific over the last 25 years but it has been extremely patchy with some countries (especially those that are not US or French territories) receiving minimal IAS/Biosecurity support.

57. The four participating countries in the project all belong to the Secretariat of the Pacific Regional Environment Programme and the Pacific Community which are, respectively, the Executing Agency and one of the partners who will roll out the project. These are the two main agencies that are active in IAS and biosecurity in the region. SPREP has had a core funded IAS Advisor position and programme since 1998 and has hosted the PILN since 2006 which has included another full-time position until 2015. Ancillary IAS/biosecurity staff has also been hosted by SPREP since 2001 including Peace Corp volunteers and others employed on short term contracts as funds have allowed. SPC has employed a programme staff member at least partially responsible for IAS/biosecurity (mainly in the agricultural sector) since approximately 2001. The UN FAO, UNDP and UN Environment are the UN agencies which have involved themselves in IAS and biosecurity albeit only via acting as implementing agencies for GEF funded projects in the main. Of the three, UN Environment has had the main involvement supporting IAS/Biosecurity work having acted as IA for the GEF Pacific Alliance for Sustainability (a Full Size GEF regional project on IAS), which was completed in 2016 and the Terminal Evaluation was completed in 2017.

58. Regional agreements relating to IAS/biosecurity in the Pacific have not been forthcoming but could result in future by the impetus provided by the current project. However, in its 2013 (24<sup>th</sup>) SPREP Meeting (Agenda 9.1.1 Development of a Pacific Islands regional invasive species programme proposal for submission to GEF 6) the delegates directed the (SPREP) Secretariat *“to develop a regional terrestrial and marine invasive species project for submission to GEF 6, in coordination with Members, partners, and other interested parties. This proposal would include: [1] comprehensive prevention, early detection, eradication and control components that emphasise a risk management approach, focusing on priority pathways, risks and priority ecosystems and species. [2] targeted eradications where proven, low-cost and effective eradication would result in the complete removal of IAS and the survival of globally significant species and/or ecosystems, as well as improved economic development through the removal of IAS that impact on agriculture, forestry and fisheries [3] strengthening SPREP’s regional support infrastructure through greater technical support and expert advice [4] the creation of standard operating procedures, and training to support countries to increase their capability and capacity in IAS management”*. Further, in Agenda Item 9.1.2 Pacific Invasive Species Capacity Development Strategy the SPREP Meeting resolved *“Approved the Pacific Invasive Species Capacity Development Strategy (PISCDS) and gave its support to building Pacific islands capacity to manage invasive species; and encouraged Members, partners and donors to support implementation of the PISCDS”*.

59. Two years later, the 2015 SPREP Meeting the Pacific countries resolved (Agenda 10.1.1 Progress in Developing a GEF 6 Invasive Species Project) *“congratulated the four countries that have committed to improving invasive species management nationally and regionally by taking up this*

*opportunity; encouraged further Members to commit to the project; and encouraged all Members to consider how their individual invasive species initiatives can contribute to the overall success of invasive species management in the region by coordinating their activities with the project*". Thus, via the SPREP Meetings, members (which include the USA, Great Britain, France, Australia and New Zealand) have declared unanimous support for the current project (and its allied activity – the PISCDS), formally requesting SPREP and its partners (UN Environment, SPC) to develop the project under the GEF 6 funding round.

### **Regional Sectoral context**

60. There is great variability throughout the Pacific region with respect to the ability of countries addressing biosecurity and IAS issues. The risks of new IAS establishing vary enormously due to differences in relative isolation, size of economy (and hence things like trade and air travel) and the standards of border quarantine controls and surveillance. The four countries in the project vary considerably with Niue and Tonga having fully operational NISSAP's with national committees which have been operating long enough to now require NISSAP review (part of the present project) and the others either without a NISSAP (Tuvalu) or one which has not been operationalised (RMI). The support for countries' biosecurity and IAS work regionally has been patchy since the late 90's with the bulk of the responsibility being assumed by SPREP (with an emphasis on biodiversity) and SPC (with an emphasis on agriculture and border / quarantine control). Funding, personnel and projects have fluctuated albeit there has been sufficient activity to have now refined and made available training, "tools" and technical information. Now is a prime opportunity to bring these elements together into a coordinated and collaborative effort as has been sought by the member countries of the SPREP Meetings (see above). This project will bring together the two main service providers in the IAS/Biosecurity sector (SPREP and SPC) to show-case how these agencies can technically support the sector in the region as a whole starting with the four participating countries. This will be facilitated by the tradition of cooperation and collaboration which has typified Pacific relations in the past. The *modus operandi* of this project will ensure that skill sharing and the exchange of knowledge / experience between countries will happen facilitated by the EA's and even out the disparity in capacity in the region.

61. The United Nations agencies have produced their Pacific Strategy (United Nations 2018) (formerly known as UN Development Assistance Frameworks). Its Objective 1 (Outcome 1: Climate Change, Disaster Resilience, and Environmental Protection - by 2022, people and ecosystems in the Pacific are more resilient to the impacts of climate change, climate variability and disasters; and environmental protection is strengthened) has the only related text to biodiversity and protecting natural areas and therefore by implication relating to IAS and Biosecurity. It reads "Innovative and climate resilient 'Ridge to Reef' approaches will promote blue and green economies and increase the economic and social benefits of community-based conservation in protected areas, and support access to finance for biodiversity and ecosystem management. Sustainable fisheries and livelihoods, focused on the economic empowerment of women and youth, will be realized through support for strengthened coastal biodiversity management." Thus, the current project will support this objective. Timely contribution of project results, lessons learnt and awareness raising of the benefits to countries available from the project will be directed continuously into the UNDAF process by UN Environment's participation in the UN Country Team. In particular significant milestones like the Mid Term Review (or Evaluation) results will be communicated – especially the Outcome Group responsible for Environment related matters in the UNDAF.

## Country context

62. To date the investment by countries into IAS/Biosecurity has been low and tends to be responses to threats after they have established in-country rather than prevention which is demonstrably the most cost-effective approach. Further, responses are mostly motivated by the threats IAS pose to agriculture and trade options. However, all the Pacific Island Countries are Parties to the Convention on Biological Diversity - see below for other related Multi-lateral Environmental Agreements (MEAs) - in particular therefore Article 8h of the CBD which identifies IAS (and by implication biosecurity) as a cross-cutting issue affecting all aspects of environmental management and human health/welfare. Another closely related instrument which is also binding on countries includes the World Trade Organisation (WTO) Sanitary and Phytosanitary (SPS) Agreement. The MEAs (and the supporting/funding mechanisms which are responsible for their implementation) provide an international framework for countries to develop statutes/regulations/policies relating to IAS/Biosecurity. This process can (and should) be facilitated/supported by the relevant international and regional agencies (e.g. UN Environment, FAO, SPREP, SPC).

63. Several Multilateral Environment Agreements (MEAs) are in effect at global, hemispheric and regional levels and address the challenge of IAS. The obligations of the Pacific countries to them are shown below (Table 5). All directly or indirectly tackle the IAS/biosecurity issue which means this project will contribute to meeting the objectives of these instruments and countries' obligations to them.

**Table 6: MEAs and other agreements adopted by Pacific Island Countries (excludes territories) with direct relevance to IAS/Biosecurity (sources: SPREP Database, organisation websites) \***

| Instrument            | CI | FSM | Fiji | Kbti | MI | Nru | Niue | Pal | PNG | Sam | SI | Tga | Tuv | Van |
|-----------------------|----|-----|------|------|----|-----|------|-----|-----|-----|----|-----|-----|-----|
| <b>CBD</b>            | SR | SR  | SR   | A    | SR | SR  | A    | A   | SR  | SR  | SR | A   | SR  | SR  |
| <b>NBSAP</b>          | Y  | Y   | Y    | Y    | Y  |     | Y    | Y   | Y   | Y   | Y  | Y   |     | Y   |
| <b>Cartagena Prot</b> | S  |     | SR   | SR   | A  | A   | A    | SR  | A   | SR  | A  | A   |     |     |
| <b>CITES</b>          |    |     |      |      |    |     |      | A   | A   | A   | A  |     |     | A   |
| <b>RAMSAR</b>         |    |     | R    | SR   | R  |     |      | R   | R   | R   |    |     |     |     |
| <b>W Heritage C</b>   | SR | SR  | SR   | A    | A  |     | A    | A   | A   | A   | A  | A   |     | SR  |
| <b>UNFCCC</b>         | SR | SR  | SR   | SR   | SR | SR  | A    | A   | SR  | SR  | SR | A   | SR  | SR  |
| <b>Kyoto Protocol</b> | SR | SR  | SR   | A    | SR | SR  | SR   | A   | SR  | SR  | SR | A   | SR  | A   |
| <b>UNCCD</b>          | A  | SR  | A    | A    | A  | A   | A    | A   | A   | A   | A  | A   | A   | SR  |
| <b>Nagoya Prot</b>    |    | S   | A    |      |    |     |      | S   |     |     |    |     |     | S   |
| <b>IPPC</b>           | P  | P   | F    |      |    |     | P    | P   | P   | P   | P  | P   | P   | P   |
| <b>ICAO</b>           | P  | P   | P    | P    | P  | P   | P    | P   | P   | P   | P  | P   |     | P   |
| <b>WTO</b>            |    |     | P    |      |    |     |      |     | P   | P   | P  | P   |     | P   |
| <b>OIE</b>            |    | P   | P    |      |    |     |      |     | P   |     |    |     |     | P   |
| <b>CODEX</b>          | P  | P   | P    | P    |    | P   |      |     | P   | P   | P  | P   |     | P   |

\* *Countries:* CI – Cook Islands; FSM – Federated States of Micronesia; Kbti – Kiribati; MI – Marshall Islands; Nru – Nauru; Pal – Palau; PNG – Papua New Guinea; Sam – Samoa; SI – Solomon Islands; Tga – Tonga; Tuv – Tuvalu; Van – Vanuatu. *Instruments:* CBD – Convention on Biodiversity Diversity; NBSAP – National Biodiversity Strategy and Action Plan; Cartagena Prot – Cartagena Protocol on Biosafety; CITES – Convention on International Trade of Endangered Species; RAMSAR – Ramsar Convention on Wetlands of International Importance; W Heritag C – World Heritage Convention; UNFCCC – United Nations Framework Convention on Climate Change; UNCCD – United Nations Convention to Combat Desertification; Nagoya Prot – Nagoya Protocol; IPPC – International Plant Protection Convention (FAO); ICAO - International Civil Aviation Organisation - Resolution A33-18 Preventing the Introduction of Invasive Alien Species (source – Wikipedia); WTO – World Trade Organisation; OIE – World Organisation for Animal Health; CODEX – CODEX Alimentarius. *Country adoption of instruments:* SR – signed and ratified; Y – yes (NBSAP written and process in train); A – acceded; S – signed; P – Party.

64. Of the four countries in the project only Tuvalu does not have a National Invasive Species Strategy and Action Plan. Niue and Tonga have functional national committees supervising their NISSAP implementation and active IAS/biosecurity programmes while Tuvalu and RMI have had very little IAS/biosecurity work done recently although RMI has completed some during the recently completed GEF PAS IAS project. However, all the countries have units and departments that formally have responsibility for IAS management and control. All have border control units that seek to prevent the entry of invasive crop pests. However, surveillance is not done systematically. Public health units control the vectors that spread communicable diseases. These various units also attempt to meet their respective countries other commitments as contained in the various MEAs.

65. Tonga and RMI have local NGO's (e.g. Vava'u Environmental Protection Association and Marshall Islands Conservation Society) which have a good track record of carrying out projects. These will be incorporated into the current project as partners. International NGO's such as Island Conservation will also support the project and local NGO's (see co-finance/in-kind data).

66. Tonga, Niue and RMI have NISSAPs and Tuvalu has yet to create one (proposed to be delivered in the frame of the project). Tonga and Niue have NISSAPs needing review prior to the conclusion of the proposed project. Other PICT's have NISSAP's and all have legislation which support IAS/Biosecurity work. Typically (since IAS/Biosecurity is a cross-cutting issue as identified in Article 8h of the CBD), statutes and regulations which apply to IAS and Biosecurity are distributed over a wide range of areas and therefore provides the need for a national coordinating plan (e.g. the NISSAP's) and a supervising, multi-disciplinary, national committee. Relevant statutes for IAS/Biosecurity as they relate to each country are recorded below. However, of the PICT's only Niue and Tuvalu have sole purpose, customised legislation such as the Biosecurity Act 1993 that New Zealand and other countries have. The national statutes and other related instruments that are related to IAS in each of the project countries are summarised below:

67. Niue (SPREP 2015a)

- Environment Act 2003 – establishes the Environment Department – one of whose functions is the protection of indigenous flora and fauna.
- Environment Bill 2013 – maintains the Environment Department and adds the key management tool of Environmental Standards.
- Wildlife Act 1972 (allows the declaration of an animal as an absolutely or partly protected species)
- Biosecurity Bill 2013 defines the roles and responsibilities of Government as –
  - (a) to protect Niue against the entry of regulated pests and diseases affecting animals, plants, human beings and the environment;
  - (b) to carry out surveillance and monitoring of pests and diseases in Niue and assess the status of regulated pests and diseases;
  - (c) to prevent the establishment and spread of regulated pests and diseases and the release of organisms that might adversely affect animals, plants, human beings and the environment in Niue;
  - (d) to eradicate, contain or control the movement of regulated pests and diseases that are already present in Niue;
  - (e) to prevent the introduction and spread of regulated pests and diseases not already present in Niue;
  - (f) to facilitate the safe importation of animals and plants and their products, and related equipment and technology;

- (g) to facilitate the export of animals and plants and their products in accordance with the requirements of the receiving countries; and
- (h) to facilitate international cooperation to prevent the spread of pests and diseases affecting plants, animals, human beings and the environment.
- Niue Island Plant Quarantine Regulations 1985
- Agriculture Quarantine Act 1984
- Agriculture Quarantine Regulation 1985 (Establishes the border control and quarantine system and the roles of quarantine officers, and associated regulations)
- Animal quarantine (disease control) regulations 1991 (Provides measures for managing diseases or pests of livestock in the country)
- Agricultural quarantine (prevention of animal disease) regulations (Provides measures to manage importation of animals to prevent introduction of new pests & diseases)
- Plant Quarantine Regulations (provides measures to control the importation of plant material)
- Law of the Sea (UN Convention on Law of the Sea) – related regulations (legislation in preparation advised by SPC for the management of ballast water to mitigate this pathway for introducing marine IAS)
- Dogs Act 1966 (requires registration of dogs and allows the destruction of un-registered dogs)
- Domestic Fishing Regulations 1996 (identifies three species deemed to be destructive organisms which cause harm to Niue’s reefs and can be removed from the reef and destroyed including – Crown of Thorns star fish (*Acanthaster lanci*), Japanese star fish, long spined coral boring urchin (*Echinoidea diadema*)
- Mosquito Control Act 1980 (requires action to minimise breeding areas)
- Pesticides Act 1998 (regulates the importation and sale of pesticides, including the establishment of a Pesticides Board to oversee importation)
- Pig Control Act 1998 (requires pig owners to keep them confined or tethered to prevent wandering)
- Niue’s National Invasive Species Strategy and Action Plan 2013-2020
- National Biodiversity Strategy and Action Plan
- Niue Island National Strategic Plan 2014-2018

68. Tonga (Tonga 2014)

- National Invasive Species Strategy and Action Plan 2013-2020
- Rhinoceros Beetle Act 1912
- Quarantine Act 1970
- Birds and Fish Preservation Act 1974
- Parks and Reserves Act 1976
- Territorial Sea and Exclusive Economic Zone Act 1978
- Plant Quarantine Act 1988
- Noxious Weeds Act 1988
- Terrestrial and Fisheries (conservation and management) Regulation 1994
- Marine Pollution Act 2002
- Fisheries Management Act 2002
- Pesticide Act 2002
- Environmental Impact Assessment Act 2003

- Waste Management Act 2005
- Forest Act 2009 (draft)
- Biosecurity Act 2013 (draft)

69. Tuvalu

- Biosecurity Act 2017
- Marine Pollution (Amendment) Act 2017
- Environment Protection Act 2008
- Plants Act 176
- Importation of Animals Act 1964
- Conservation Areas Act 1999
- Wildlife Conservation Act 1975
- Pesticides Act 1990
- Quarantine Act 1929
- Marine Resources Act 2012
- Biosecurity Act 2017
- Public Health Act 2008
- Falekaupule Act 2008
- Foreshore and Land Reclamation Act 2008
- Wildlife Conservation Act 2008
- Plants Act 2008
- Marine Resource Act 2008
- Pesticides Act 2008

70. Marshall Islands (SPREP 2015b)

- Earth Moving Regulations (1989)
- Environmental Impact Assessment Regulations (1994)
- Marine Water Quality Regulations (1992)
- Pesticides and Persistent Organic Pollutants Regulations (2004)
- Public Water Supply Regulations (1994)
- Quarantine Regulations
- Coast Conservation Act (1988)
- Customs Act
- Endangered Species Act (1975)
- Fisheries Act (1997): Provides protection for turtles, sponges, oysters and trochus - Shark Law Amendment (2011): band trade in shark products and commercial shark fishing
- Food Safety Act (2010)
- Marine Mammal Protection Act (1990)
- Marine Resources Act (1997)
- National Environment Protection Act (1984) -Conservation of marine and terrestrial resources -Protection of specific species such as sea turtles
- Office of Environmental Planning and Policy Coordination Act (2003)
- Food and Nutrition Security Policy
- Draft Biosecurity Bill

- Draft Protected Areas Network Legislation
- Republic of Marshall Islands National Invasive Species Strategy and Action Plan 2016-2021
- Earth Moving Regulations 1989

## 2.5 Stakeholder mapping and analysis

71. The project will interact in different ways with a wide range of stakeholders. Each of them will have a particular role in the project activities either as a beneficiary, co-financier, technical partner, etc. The following table provides a summary of the stakeholders' involvement. It is worth noting that the stakeholder mapping and analysis will continue to evolve during project implementation (e.g. acquiring further private sector support from commercial operators and more from NGOs/CSOs over and above that already available from Island Conservation), and therefore the project team will closely monitor these changes and/or record new partnerships or interactions. The initial stakeholder analysis was completed during project development country consultations and consultations with stakeholders.

**Table 7: Confirmed and prospective stakeholders and roles for project countries**

| COUNTRY/STAKEHOLDER   | SECTOR/ACTOR   | CURRENT ROLE OR FUNCTION (relating to IAS)  |
|---|--|---|
| <b>PRIVATE SECTOR</b>   |  |   |
| <b>Hotels, airlines, local tour operators, tourist shipping</b>             | Private/ Commercial  | Preliminary investigations done during the PPG and will be actively targeted during the implementation of the projects to win support for border biosecurity, early detection, awareness raising, and if possible restoration projects.   |
| <b>NIUE</b>   |  |   |
| <b>Department of Environment</b>  | Government Agency/Environment Division   | Technical advice on matters pertaining to the environment. The Department of Environment will be the local partner and main contact for project implementation. A representative of this institution will be appointed as project focal point and will also be responsible for the monitoring and reporting of the national co-finance.                                   |
| <b>Department of Agriculture, Forests and Fisheries</b>                     | Government (Plant Protection and Quarantine Division, Forestry Division, Development Control Authority, Fisheries Division, Land Division Agricultural Extension Division) | ‘To enhance national economic development by effectively managing the spread of pests and diseases on Niue and by facilitating increased agricultural trade through appropriate bio-security protocols’ (DAFF 2009)<br>Development of and implementation of policies for forestry, fisheries, and agriculture. Land management. Plant quarantine and agricultural health. |
| <b>National NGOs</b>  | Tofia Niue   | Runs the “NOW” project – Niue Ocean Wide project funded by “Oceans 5”. Public/private partnership. Indirect role since it is overseeing marine BD baseline survey but excluding marine IAS  |
| <b>TONGA</b>  |  |   |
| <b>Ministry of Lands, Environment, Climate Change and Natural Resources</b> | Government   | Established in 2009 in recognition of the growing importance of the environment and sustainable management of natural resources as the basis for the economic, social and cultural development.   |

| COUNTRY/STAKEHOLDER  | SECTOR/ACTOR                                | CURRENT ROLE OR FUNCTION (relating to IAS)   |
|--|---|--|
|  |   | Governing institution for MEAs on biodiversity, coordination of national action to conserve national biodiversity<br>Environment Policy; biodiversity and genetic resources. Focal point for CBD. Will also act as National Project Executing agency                   |
| <b>Ministry of Agriculture, Forestry, Food and Fisheries (MAFFF)</b> | Government                                  | Ensures the sustainability and profitability of agricultural lands.  |
| <b>Quarantine and Quality Management Division (part of MAFFF)</b>    | Government                                  | Biosecurity especially in regard to the conservation of native biodiversity  |
| <b>Department of Forestry (part of MAFFF)</b>                        | Government                                  | Sustainable use of forest resources  |
| <b>Department of Fisheries</b>                                       | Government                                  | Responsibility for the conservation, management and development of fisheries and the authority to conserve endangered inshore marine resources.  |
| <b>Ministry of Infrastructure</b>                                    | Government                                  | Responsible for the rules, regulations and enforcement, consistent with Tongan law and international standards, to guide the safe and secure operations of maritime services and ports. Particular concerns are ballast water and hull fouling as pathways of invasion |
| <b>National NGOs</b>   | Tonga Community Development Trust           | Programme in environment and natural resources with strong involvement with community forestry (e.g. multi-purpose nurseries in Vava'u, Ha'apai and 'Eua)  |
|  | Civil Society Forum of Tonga                | An umbrella organisation which aims to support all NGOs by providing opportunity for capacity building and leadership development  |
|  | Vava'u Environmental Protection Association | Local environment/conservation society actively running local conservation projects on/around Vava'u (northern Tonga group)  |
| <b>TUVALU</b>  |   |  |
| <b>Department of Customs, revenue and border protection</b>          | Government                                  | Border control, quarantine, EDRR   |
| <b>Ministry of Natural Resources, Energy and Environment</b>         | Government                                  | Oversight of environment policy and advises on activities which relate. Local executing agency for the current project   |
| <b>Ministry of Home affairs and rural development</b>                | Government                                  | Law enforcement; new species for agriculture or horticulture   |
| <b>Ministry of Trade, tourism and Commerce</b>                       | Government                                  | Border control, quarantine, EDRR   |
| <b>National NGO</b>  | Tuvalu Marine Society                       | Conservation of marine resources – especially nearshore in Conservation Areas  |



| MARSHALL ISLANDS  |  |   |
|---|--|---|
| <b>RMI Office of Environmental Planning and Policy Coordination</b>   | Government                               | Meeting MEA obligations; domestic oversight of environmental management including conservation and Reimaanlok policy implementation.  |
| <b>Ministry of Resources including Division of Quarantine, Marshall Islands Marine Resource Authority (MIMRA)</b> | Government                               | Oversight of extractive activities of natural resources such as fishing. Border control/quarantine.   |
| <b>Ministry of Transportation and Communication</b>   | Government                               | Inter-island transport and hence biosecurity  |
| <b>Ministry of Health</b>   | Government                               | IAS borne diseases (e.g. insect vectors)  |
| <b>Ministry of Education</b>  | Government                               | Public awareness, curriculum development  |
| <b>Ministry of Customs</b>  | Government                               | Border control/security (including biosecurity)   |
| <b>Ministry of Immigration</b>  | Government                               | Import risks associated with passage of people  |
| <b>Ministry of Justice</b>  | Government                               | Sea patrol and maritime law enforcement   |
| <b>Ministry of Interior and Outer Islands</b>   | Government                               | Reimaanlok – whole of Government approach to outer island management/interventions including land use planning  |
| <b>Environment Protection Authority</b>   | Government                               | Enforcement of environmental regulations  |
| <b>College of the Marshall Islands</b>  | Government                               | Research, education   |
| <b>Marshall Islands Invasive Species Task Force</b>   | Government                               | Planning, coordination, support – members from various line agencies  |
| <b>Office of the Attorney General</b>   | Government                               | Law enforcement   |
| <b>Coastal Management Advisory Council</b>  | Government                               | Marine IAS, sustainable use of natural areas  |
| <b>National NGO</b>   | Marshall Islands Conservation Society    | Data collection and development to support the line agencies. Implementation of threatened species recovery programmes involving IAS mitigation.  |
|   | Marshall Islands Mayors Association      | Includes representatives from the 24 political divisions of the Marshall Islands (effectively most inhabited islands). These in turn communicate with traditional leaders. All local activities need to receive approval from Mayors and their networks.  |
| REGIONAL ORGANIZATIONS  |  |   |
| <b>SPREP</b>  | Inter-governmental regional organisation | <p>SPREP will be the Executing Agency of this project.</p> <p>SPREP will also be the key technical partner for participating countries for activities including weed management, site restoration, monitoring baselines and changes, and project management/mentoring. As the coordinator of the Pacific Invasive Learning Network (PILN) will deliver the two PILN Regional Meetings and guide support to participating countries. SPREP will also be the home base of the Pacific Regional Invasive Species Management Support Service (PRISMSS) which will be developed within component 4 of the project and as such it</p> |

|   |   |   |
|---|---|---|
|   |   | will be part of the Project Steering Committee and coordinate all the aspects related to project execution in close coordination with the participating countries, UN Environment and the partners, especially SPC. SPREP is executing agency for many allied projects in the Pacific region so this project can benefit from many spin-offs from these projects.   |
| <b>SPC</b>  | Inter-governmental regional organisation  | Key partner for national biosecurity/quarantine activities within the project. Regional responsibilities in the past for border control / quarantine training throughout the Pacific. Expected to support the project in related areas. Other projects and activities managed by the Land Resources Division will support this project.   |
| <b>Pacific Islands Roundtable for Nature Conservation</b> | Inter-agency regional organisation  | Forum for agencies running conservation projects to share experiences and facilitate cooperation and collaboration. It is the coordination mechanism for current Action Strategy for Nature Conservation in the Pacific Island Region (see <a href="http://www.iucn.org/about/union/secretariat/offices/oceania/roundtable/">http://www.iucn.org/about/union/secretariat/offices/oceania/roundtable/</a> ). |
| <b>Pacific Invasives Partnership</b>                      | Inter-agency regional working group on IAS for PIRNC                              | Voluntary membership – group attempts to collaborate on IAS projects throughout the region (see <a href="http://sprep.org/Pacific-Invasives-Partnership/invasive-partnerships">http://sprep.org/Pacific-Invasives-Partnership/invasive-partnerships</a> )   |
| <b>Pacific Invasives Learning Network</b>                 | Inter-agency regional network hosted by SPREP                                     | Provides support to country practitioners responsible for carrying out IAS projects.  |
| <b>BirdLife International Pacific Programme</b>           | Inter-agency regional network of NGO's in partnership with BirdLife International | Supports national NGO's to run restoration projects including threatened species and natural habitat, which are usually threatened by IAS.  |
| <b>United Nations Development Programme</b>               | International inter-governmental organisation                                     | IA for many GEF funded projects with IAS content such as the GEF 5 Ridges to Reef programme country projects, GEF 6 IAS (GEF ID 5589) capacity building in Fiji (paraphrased), Safeguarding BD from IAS in FSM (GEF ID 9917, not yet under implementation). Current project involves all countries in the R to R programme.   |
| <b>UN Food and Agriculture Organization</b>               | International inter-governmental organisation                                     | As above for R to R programme plus agricultural focus projects with an IAS component throughout the Pacific. Current project will support all of these.   |
| <b>UN International Maritime Organisation</b>             | International inter-governmental organisation                                     | Marine IAS work globally such as GLOBALLAST – a regional project continuing work on the risks posed by ballast water and hull fouling will complement this project.   |
| <b>UN Environment</b>                                     | International inter-governmental organisation                                     | UN Environment will be the implementing agency of the project. As such it will be part of the project's steering committee and will network with SPREP, the countries and other partners. UN Environment will also provide technical advice when possible and provide monitoring and supervision services for the project plus networking the project with allied projects on IAS for which it is IA.       |

|   |  |  |
|---|--|--|
| <b>United States Government<br/>(Dept of State, Agriculture,<br/>Interior and others)</b>   | Foreign government                         | Assists US affiliated states such as RMI, which is part of the current project. Some projects have IAS elements which will mutually benefit the current project and those of the USG   |
| <b>International Union for the<br/>Conservation of Nature<br/>(IUCN) and its Invasive<br/>Species Specialist Group<br/>(ISSG)</b> | International inter-<br>government and NGO | IUCN is IA for at least two GEF 6 projects with IAS components (Vanuatu and Solomon Islands) which will benefit from this project (regional component). ISSG is responsible for one of the most authoritative sources of information on invasive species, the Global Invasive Species Database (GISD). Current project will support ISSG and GISD. |
| <b>Island Conservation</b>  | NGO  | Specialises in island eradications and is the primary project partner for eradication for the project.   |
| <b>Landcare Research NZ</b>   | Crown research<br>Organisation             | Landcare Research NZ plays a vital support role to Pacific countries for the implementation of weed biocontrol programmes. They will be the primary partner for biocontrol of weeds within the project and will liaise with other agencies.  |
| <b>VILLAGE COMMUNITIES</b>  |  |  |
| <b>Tonga, Niue and Tuvalu</b>   | General Public                             | Historic participation in GEF PAS projects in Tonga and Niue. Anticipated participation in Tuvalu  |

**Note:** Other NGOs have been offered opportunity to participate such as Conservation International and The Nature Conservancy but their involvement is still to be determined.

72. Private sector engagement will build on existing relationships and be actively sought and developed during the project as opportunities arise. The activities have been designed to allow for private sector engagement, at the design phase. Private sector engagement has the potential to contribute significantly to the wider outcomes during the term of the project and beyond. Currently private sector activities in the four countries and wider region have some relevance to Biosecurity and the potential introduction of IAS by playing a role in early detection, biosecurity and awareness (e.g. airline industry and commercial importers) and possibly eradication and restoration (e.g. resorts with significant land areas such as owning whole islands). This is representative of an intention to look for win/ win scenarios where private sector entities are able to work towards their objectives by helping to advance the project objectives. During the country consultation phase of the PPG, countries signalled their intention to build links with the private sector mainly to support outreach and improve biosecurity. For example, the Republic of the Marshall Islands signalled their intention to seek support from the national Chamber of Commerce and target hardware importers for awareness raising; Tuvalu will target obtaining higher biosecurity standards from near monopoly importers of hardware and development materials such as boulders for reclamation sourced from other countries, plus sponsors for particular islands used by tour operators; Niue has already engaged the private sector in the environment sector with sustainable tourism and solid waste management and plans to engage the single airline providing an air service to the outside (Air New Zealand) to advocate biosecurity with its in-flight video and flight magazine, build its existing support from the Hotel and Tourism industry such as the main resort (Matavae Resort); and Tonga will build its existing collaboration with the Private Sector such as the airlines (Air Pacific and Air New Zealand). Such partnerships will also support sustainability of results by broadening engagement in IAS management and ensuring awareness across multiple sectors.

## 2.6 The baseline analysis and gaps

### **Regional Analysis**

73. An analysis of baseline information by the project team and partners has revealed significant gaps in IAS and biosecurity prevention and management in the region. These gaps are best categorised as below. The current status and expected near future (approximately the term of the project) of IAS/biosecurity prevention and management standards/issues without the project's intervention in the region is described below:

#### *Legislative framework at regional and global level*

74. The current project will provide significant inputs towards country obligations to the following instruments and, while their contributions would continue without the project, the inclusive benefits would not otherwise accrue over the next five years at least.

#### *Institutional capacity including human resources*

75. SPREP and SPC's work on IAS and biosecurity over recent years is detailed in Appendix 19. In the absence of the present project further work will continue as described in Section 2.7 but without establishing the PRISMSS or an equivalent. Without the PRISMSS, the level of work described that needs to be done from the country analysis (see below) and the regional level (and global) outputs will not be achieved (see below).

76. It is very difficult to estimate the number of Full Time Equivalent (FTE) permanent staff currently employed on IAS and Biosecurity work by island Governments in the Pacific because these roles are often shared between Ministries/Government agencies and individuals may have a number of responsibilities – only some of which include IAS and biosecurity. It is even more difficult to estimate how many would remain in employment without the project's intervention over the next five years. Almost certainly staff would be lost to competing demands on resources and so without the project the staff committed to IAS and biosecurity the nett number of staff would significantly decline. However, in the four countries which are the focus of this project the numbers of staff involved with IAS and biosecurity are, Niue – eight, Tonga – three, Marshall Islands – eight, and Tuvalu – three. Of the staff working on IAS (education, management/control, eradication, prevention etc.) one, was established through the GEF PAS IAS project (Tonga) and at least one supported by the same project's activities (Niue). Over recent years there has been a high turnover of staff in related positions and retaining the position in the staffing structure of the Ministries concerned (and hence the funding) has been an ongoing challenge. This scenario is likely to persist in the absence of the project's intervention – or more likely, be aggravated.

77. Within the environmental agencies of the four countries involved with national execution of the project, women are well represented in the second tier management roles with three of the four occupied by women (Tonga, Niue and RMI) and in Tuvalu there is only one permanent position and this is occupied by a male. Women are also strongly represented in non-management positions in the country agencies who will be involved in the activities and outputs planned. There is no reason to believe that this pattern would not persist over the next five years – even if the project were not implemented.

#### *Relatively small and uneven fluctuating expenditure on IAS/Biosecurity*

78. The amount spent on the different elements of IAS/biosecurity (prevention, control or management, eradication and general IAS/biosecurity work) varies considerably between countries as

does the total expenditure (although note – data are not corrected for Gross Domestic Product or similar) – see Figure 2 above and Table 7. Over the term of the project, expenditure and effort would at best remain the same but probably decline significantly without the intervention of the project.

#### *Marine invasive species, ship ballast water and hull fouling*

79. The GEF-UNDP-IMO GloFouling Partnerships project (GEF project ID 9605) includes two Pacific countries as pilot countries – one of them being Tonga which is part of the current project. The Executing Agency is the IMO (Implementing Agency UNDP) with SPREP as the Pacific Regional Coordinating Organisation. The programme is expected to commence later in 2018 which means it should overlap well with the current project. SPREP colleagues will work closely to capitalize on the opportunity to ensure the maximum inclusive benefits are shared. This synergistic benefit would not eventuate without the current project and the likely inclusive benefits – especially arising out of involving the same (in effect) executing agency – would not otherwise eventuate over the terms of the two projects. Hence the GloFouling project would be implemented without the added value this project will bring and vice versa.

80. The aim of the programme “Shipping Related Introduced Marine Pests in the Pacific” (SRIMP-Pac) is to maintain, protect and enhance the quality of coastal and marine environments by preventing, minimizing and controlling the introduction of shipping related marine pests to Pacific Island Countries and Territories. There are four key objectives of the SRIMP-Pac Strategy:

- Assess and monitor the current and potential risks of shipping related Introduced Marine Pests in the Pacific Islands region
- Assist PICT’s to develop better capacity to effectively prevent and respond to shipping related IMP’s
- Provide a framework and mechanism for regional cooperation, coordination and harmonization of IMP management activities, including links with similar activities that address non-shipping vectors, both within the region and with Pacific rim countries
- A detailed work plan that focuses on a number of thematic areas including institutional arrangements, communication and awareness, considering gender aspects, risk assessment, surveys and monitoring, legislation, gender responsive capacity building and information management.

81. It is worth noting that the SRIMP-Pac strategy is not yet funded and hence, in effect, the current project will provide some support to it by implementing some of Tonga and Tuvalu’s National Ballast Water Management Strategies. Quite likely, if the proposed current project did not eventuate then little or none of the SRIMP-Pac’s outputs would be produced in the next five years.

#### *Legal instruments*

##### Biodiversity

82. A range of international instruments relating to IAS in the context of conserving biological diversity are relevant to Pacific countries. These include the Convention on Biological Diversity, Johannesburg Plan of Action, Convention of Migratory Species of Wild Animals, Convention on the International Trade of Endangered Species, United Nations Convention on Law of the Sea and Convention on Wetlands of International Importance Especially as Waterfowl Habitat (Ramsar Convention) (see also Paragraphs 52-55, Table 5). Some protocols consider living modified organisms

(LMOs) the same way as IAS. The Cartagena Protocol on Biosafety is the most important protocol relating to the movement of LMOs. Others which make reference to LMO's include the CBD, IPPC, and the FAO Code of Conduct for Responsible Fisheries. While countries will continue to strive to meet their obligations under these instruments, the opportunity of improving their capacity to do so with the implementation of the project over the medium term would be lost if the project were not to progress.

83. Some overlap exists between the current project and the IPPC. This operates under the umbrella of the FAO and gave rise to numerous relevant International Standards for Phytosanitary Measures (ISPM) and the WTO (World Trade Organisation) SPS (Sanitary and Phyto Sanitary) Agreement, the key legal instrument governing global trade via binding rules, enforced by a compulsory dispute settlement mechanism. ISPMs are defined as legislation, regulation or official procedure aimed at preventing the introduction or spread of plant pests of potential economic importance. These are adopted by Regional Plant Protection Organizations (RPPOs – e.g. Asia and Pacific Plant Protection Commission housed in the FAO Asia-Pacific Office), inter-governmental organizations functioning as coordinating bodies for National Plant Protection Organizations (NPPOs), which all IPPC members are required to set up. The current project will provide support to the above instruments through the activities and outputs in-country which relate to biosecurity. Without the project these instruments will continue but without the added value to the effectiveness (e.g. harmonisation) expected from the project.

### Pathways

84. Civil aviation is an important pathway for the movement of IAS. The International Civil Aviation Organization (ICAO) adopted Resolution A33-18, “Preventing the Introduction of Invasive Alien Species”, in 1998. This resolution requests ICAO members to work with other UN organizations on how the ICAO can support efforts to minimize the risk of introducing potential IAS. However, the responsibility of IAS control measures remains with individual countries. The impact of IAS on tourism has been recognized, and international instruments include the CBD's Guidelines on Biodiversity and Tourism Development and the World Heritage Convention. Without the project, countries' ability to meet the IAS pathway threat generated by air travel and freight will not improve and probably deteriorate over the medium term.

85. Pacific regional initiatives have included the aforementioned 2014 SPREP Meeting resolution supporting the present project – support that stems from the 1999 SPREP Meeting which endorsed the SPREP IAS Programme. This Programme generated the Pacific Regional IAS strategy and Action Plan (Sherley 2000) and the “Guidelines” – again endorsed by SPREP Meetings. The completed UN Environment-GEF (with SPREP as EA) “Prevention, control and management of invasive alien species in the Pacific Islands 2011-16 that was active in Kiribati, Vanuatu, Tonga, Niue, Cook Islands, Palau, Federated States of Micronesia and Republic of Marshall Islands (Papua New Guinea was included but declined to participate). The Terminal Evaluation Report for this project rated it as “Satisfactory” overall with many components rated “Highly Satisfactory” thus validating the agencies involved (UN Environment and SPREP as implementing and executing agencies respectively) and the manner in which the project was “executed”. The current project is therefore a logical step in the evolution of a progressively more comprehensive regional and country IAS/biosecurity capacity. The rate of this progress and the synergies resulting from recent past projects would likely stall without the current project over the medium term – possibly long term. Allied projects hard pipelined or yet to be commissioned are unlikely to meet the challenge of setting up a PRISMSS with its inclusive and added value benefits as described elsewhere in the project document.

86. The 3rd International Conference on SIDS in September 2014 participants called for support to enhance collaboration and improve efforts to eradicate and control and to develop and strengthen capacity to address IAS (Paragraph 93 of the S.A.M.O.A. Pathway Outcome document). At the regional level calls for concern and action are made, but they lack supportive programmes and continuity of projects to translate these declarations into meaningful action. This project is the only current GEF / UN funded project in the region which attempts to contribute to address this Outcome. Obviously without it no GEF funded project is likely to exist in the medium term which is purpose designed to tackle IAS and biosecurity at country and regional levels. Similarly, activities involving IAS and biosecurity as described so far will help countries to meet Aichi Target 9 specifically but also support meeting Targets 1, 5, 7, 8, 11, 12, 15, 19 and 20.

87. The IUCN has published the comprehensive Guide to Designing Legal and Institutional Frameworks (Shine et al. 2000). It provides a high level strategic roadmap for law and policy makers, with emphasis on international cooperation, as well as describing principal legal instruments that could be exploited for IAS management. The Environmental Law Institute (ELI) in the USA has published a hands-on toolkit (Filbey et al. 2002) that can be used as a starting point for drafting of laws and regulations in pilot countries. The report analyses the current legal tools available at the state level to combat invasive species and identifies 17 state tools that are grouped into five categories: prevention, regulation, control and management, enforcement and implementation, and coordination. For each tool, examples of strong and intermediate policies are provided. Building on existing invasive species tools, the study provides guidance on assigning roles of authority, monitoring, enforcement, emergency powers, funding implementation and offers a user friendly, three-step compliance standard. The current project will build the technical publication resource base and facilitate its access to country-level users through the Battler Resource Base. Without this intervention the Battler Resource Base will not be populated to the same extent nor its availability to country-based users expanded in the medium term.

#### *Information exchange mechanisms*

88. Technical information on IAS/Biosecurity is now extensive and has been well documented (see references, GISIN, GISD, SPREP/PILN website as examples). However, information exchange throughout the Pacific region (or world-wide) is still not systematic or adequately coordinated. For example, the main conduit of invasive species information in the Pacific, the PILN, has not been funded in the past three years with the inevitable result that the supply of information to countries and remotely based professionals has deteriorated, albeit the gap has been to an extent made up with the GEF PAS project mentioned earlier and by project business conducted by the SPREP, SPC and PII/PIP etc. This hiatus would continue over the next five years or more without the current project which includes reinstating the PILN.

#### *Lack of scientific data*

89. Low levels of funding for IAS/biosecurity science and research historically coupled with poor means of dissemination have conspired to result in a dearth of formal scientific literature for the topic in the Pacific (see Sherley 2017 and references therein) which has meant that over the last 20 years most of the scientific/technical direction for tackling the problems IAS and low Biosecurity present have been sourced from experience outside of the region, albeit countries on the periphery of the insular Pacific<sup>5</sup>. A similar scenario has been reported in South East Asia (Peh 2010). Where there has

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<sup>5</sup> Greg Sherley personal observation based on professional experience 1998 to 2018 – most IAS technical support has been sourced from Government and NGO agencies based in New Zealand and Australia with some from USA.

been formal scientific research on IAS in the Pacific the great majority of it has been on species threatening agricultural assets such as Taro Blight and Rhinoceros Beetle (see FAO 2017, previous references and relevant chapters therein). Since about 2010 there has been a significant ramping up of IAS/Biosecurity activities (eradication and control of pest species, training programmes etc.) – a significant contribution being from the aforementioned recently completed GEF PAS IAS project - however, none of it has been accompanied by systematic and scientific reporting in peer reviewed publications. A notable exception is Island Conservation which has a strong scientific bent and reliably formally publishes its work (principally eradicating invasive alien species which threaten native biodiversity on islands). In the long term, such reporting is necessary to drive improved practices. IC is a partner in the current project and with advent of the current project their contribution to Pacific technical literature will increase. Otherwise over the next five years, little or no technical publications will surface in the Pacific region – especially in the absence of the resource base which the project will provide.

90. Databases on IAS (and hence relating to Biosecurity) have been developed for the Pacific since the late 1990's. These databases have been free to internet users and variously comprehensive, but all suffer from continuity with respect to up-dating and populating them with technically verified information. Some of the key databases include the Global Invasive Species Database (<http://www.iucngisd.org/gisd/>), GISIN (<http://www.gisin.org/>), Pacific Islands Ecosystems at Risk (<http://www.hear.org/pier/>) and SPREP's "Battler Resource Base" (<https://piln.sprep.org/>). Further, promoting the use of these databases and related tools needs to occur so they are common currency and standard practice between professionals working in IAS/Biosecurity professions. The current project will make maximum use of these resources – especially via the regional support service it will develop. Without the project these databases will trend towards redundancy through lack of use and periodic up-dating which the project will support.

### *Regional cooperation*

91. A cooperative regional approach to tackling IAS and related Biosecurity has been extensively discussed in various fora including all the SPREP Meetings since at least 2009 and the five year regional conferences on protected areas and nature conservation (which generate the regional strategy on protected natural areas and biodiversity conservation). Key regional agencies including SPC and SPREP have developed close working relations, formally brokered with MOUs which include specific mention of IAS/biosecurity. Looser relationships between agencies including CSOs such as Conservation International, Island Conservation, IUCN and University of the South Pacific exist due to the common interest/concern over IAS/biosecurity and the PIP and the Pacific Islands Round Table in principal binds these agencies but at best these latter relationships are informal and wax and wane somewhat depending on whether a partnership forms over a particular project. Hence the relationships are not systematic, consistent or growing. Established and (to a degree) formalized roles and responsibilities are required (such as distinguishing SPREP and SPC) to lock in IAS/biosecurity into core business. Multi-country and regional initiatives like the current project will help create the common ground between countries and agencies to redress this need. This project will help implement the Pacific Regional Strategy on Invasive Species (Sherley 2000) and the current Guidelines (SPREP 2009) which has superseded it. Thus the current project will go a long way to redressing the above inadequacies and this would not happen if it did not run over the next five years.

### *Summary of Baseline Analysis and Gaps at Regional Level*

92. Below is a visual summary of the state of achievement of most countries, territories – and their sub set archipelagos (see diagram for explanatory notes):



**Table 8: Evaluation of success of PICTs in implementation of the Guidelines for Invasive Species Management in the Pacific**

[illegible]

The three charts represent PICTs success at implementing the Guidelines for Invasive Species Management in the Pacific and therefore provides an indication of how comprehensive their invasive species programmes are at addressing priority invasive species issues. The scores are provided by the PICTs (self-scored) and are valid as of the end of 2017. The charts split FSM by the four states and Kiribati by the three island chains to allow sensitivity of the indicators to the influences of these sub-country entities. Where the indicators are white information is not known. The PICTs are represented by the rows, whilst the thematic objectives are represented by the columns. The PICT names have been intentionally left out as the purpose of the chart is to show regional trends rather than to analyse specific PICTs.

This first chart opposite displays indicators of foundation activities, i.e. objectives which provide support for an active invasive species programme. The chart suggests that support for invasive species management is generally high in the Pacific, some best practices are used, in-country networks exist but are not used enough, national invasive species coordinators, where they exist, are often project funded with only six being permanent positions of which only three have been in the position for five years. For most PICTs invasive species legislation is still fragmented. Most PICTs have national invasive species strategies and action plans (or similar), at least partially being implemented, with eight sharing a common format.



| BIOSECURITY |      |      | MANAGEMENT OF ESTABLISHED INVASIVES |      |      |      |      |      |      |      | RESTORATION |      |      |      |      |      |      |
|-------------|------|------|-------------------------------------|------|------|------|------|------|------|------|-------------|------|------|------|------|------|------|
| C1:1        | C1:2 | C1:3 | C2:1                                | C2:2 | C2:3 | C2:4 | C2:5 | C2:6 | C2:7 | C2:8 | C3:1        | C3:2 | C3:3 | C3:4 | C3:5 | C3:6 | C3:7 |
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The Pacific in general is doing well at raising awareness, prioritising invasive species, their pathways and creating national strategies and action plans. The current regional state of invasive species management in the Pacific shows that in general capacity is low. This impacts on the number of priorities that can be addressed including monitoring, but most importantly actually addressing the impact of invasive species on the ground. This is shown by the low number of priority species being managed and even further by the very low number of ecologically valuable sites that are being managed. This scenario is unlikely to improve in the medium term (e.g. five years – the term of the present project) without the intervention of the current project which means an exceptional opportunity to redress the shortcomings described is lost.

93. At a regional level, this project aims to address the following gaps which would not be filled in at least the next five years if it did not eventuate:

- a. Create a support mechanism for countries to use so that they can most efficiently and effectively implement their NISSAP's
- b. Catalyse formal records and dissemination of IAS/biosecurity best practices and provide a continued repository of this information in SPREP and SPC information systems.
- c. Improving inter-agency cooperation throughout the region in order to coordinate as much as possible IAS/biosecurity activities, funding and ensure the best practices are employed
- d. Provide modest support to the SRIMP-Pac by assisting Tonga and Tuvalu starting to address their National Ballast Water Management Strategies.

### **Country by country baseline analysis**

94. A scorecard was developed for all four countries which was based on their responses to the questionnaire described in Appendix 19. Results/data were gathered during the PPG process and have been illustrated for all countries and follow the same format (Appendix 19). Current gaps and future improvements needed to allow a country to achieve the optimum score are described respectively in the text and tables below. These gap analyses have directed/informed building the projects' outputs and these will be the increment provided by the project. If the project was not to proceed then the recent past activities measured by the scorecards (and illustrated in Appendix 19) would be the best case scenarios. In reality probably none of the activities and outputs described (right hand columns in the tables) below would occur in the countries or an even worse scenario would result with a decline in biosecurity standards and increase in the impacts of IAS on the countries' biodiversity.

#### *Tonga*

95. Tonga's Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Climate Change and Communication (MEIDECC) Corporate Plan (Government of Tonga 2015a) has identified the addition of two permanent biodiversity conservation officers to its Department of Environment. One of these positions (filled in 2017) is dedicated to IAS management and, by association, some time spent on biosecurity. These positions will form the nucleus for further work implementing the current project and help provide synergy with other related projects (such as the GEF 5 Ridge to Reef project). Hence without the current project over the next five years much of the outputs from these positions would not occur and even result in the loss of them through redundancy.

96. The Fisheries Sector Plan 2015 (Government of Tonga 2015b) recognises six marine reserves, two parks and historical sites, one volcanic island reserve, two lagoon reserves, one multiple use Conservation Area (Haapai Conservation Area – 1,000,000ha) and one sanctuary. In the Plan's analysis of the fisheries resource and projected management activities and associated costs it does not identify marine IAS as a threat and nor assign any resources to the conservation of biodiversity except to advocate sustainable fisheries use. However, during consultations for this project, it was clear that marine IAS are recognised as a threat to Tonga's biodiversity and this is reflected in Tonga's ballast water strategy and its commitment to the Global Ballast Water Convention.

97. Tonga's Agriculture Sector Plan for 2016-20 (Tonga 2016) does not recognise specifically IAS as a threat to the Sector although the need for resourcing quarantine is included. Indeed biosecurity has been "identified as a key issue for this (agricultural) sector..." (Page 50) and the need for taking advantage of overseas expertise is recognised. This includes providing for export protocols that meet off-shore biosecurity standards. The TASP recognises that the Ministry of Food, Forestry and Fisheries

Quarantine Division is under-resourced to meet Tonga's needs for keeping export pathways open and preventing the incursion of new pests and diseases.

98. Tonga has one active environmental Civil Society Organisation (CSO), the Vava'u Environmental Protection Association (northern Tongan archipelago). It is a registered incorporated society with seven board members which was established in 2009. Since then it has completed 25 projects including rodent control on Mt Talau as part of the recently completed GEF PAS Tonga sub-project. VEPA has surveyed the marine biodiversity of Late Island which is proposed for rodent eradication in the current project. The marine biodiversity will benefit from the removal of rodents because they degrade the catchments causing increased sedimentation which damages the near shore marine coral communities. All VEPA's projects have included the following elements – public education, sustainable livelihoods, community based and mitigating the threats to endangered species (e.g. turtle and bird species) finding local originated solutions. VEPA employ three full-time staff plus four part-time staff.

99. Marine invasive alien species as an issue is technically not well understood in Tonga (what species present threats, pathways, mitigation measures etc.). However, marine IAS has been recognised as a threat and an outstanding issue needing to be addressed since 2006 when Tonga endorsed the regional strategy "Shipping Related Invasive Marine Pests in the Pacific" (SRIMP-Pac). Since then Tonga has become a signatory to the International Maritime Organisation Ballast Water Management Convention (April 2014) and to commission its National Ballast Water Management Strategy 2016-2020 (Nelson and Talouli 2016). The Tongan Government has also produced the "Tonga National Ballast Water and Bio-fouling Status Assessment" in 2012 which identified the threat to Tonga's biodiversity from marine IAS introduced via ballast water and hull fouling but that this threat had not yet been systematically or formally assessed. Notwithstanding this the report stated that there was a high chance that IAS of concern known from elsewhere in the Pacific region are probably established in Tongan waters – the barnacle *Chthalamus proteus* and the black striped mussel *Mytilopsis sale*. Tonga has also received support from the sub-programme on marine IAS in the Pacific Ocean Pollution Prevention Programme (PACPOL) 2015-2020. Notwithstanding the above the issue of mitigating marine IAS in Tonga is still in its infancy.

## Foundations baseline

**Table 9: Table of foundations baseline for Tonga**

| CURRENT BASELINE SITUATION    |  | CURRENT NEEDS TO MEET<br>INVASIVE SPECIES<br>PRIORITIES  | FUTURE SCENARIO<br>WITHOUT THE PROJECT  |
|-------------------------------|--|--|---|
| <b>A1: Generating Support</b> |  |  |   |
| <b>A1.1</b>                   | Awareness programmes are active in all 3 target areas, Schools, Community and Political. | Continue generating support for IAS management   | Few positive examples of invasive species management for raising awareness. Awareness gradually waning resulting in further distribution of invasive species. |
| <b>A1.2</b>                   | Behaviour change recorded in 2 target areas (Community and Political)                    | Continue generating support for changing behaviour to support IAS management, particular focus on the community. | Slow uptake in behaviour change towards invasive species resulting in further distribution of invasive species.   |

| CURRENT BASELINE SITUATION                   |   | CURRENT NEEDS TO MEET INVASIVE SPECIES PRIORITIES  | FUTURE SCENARIO WITHOUT THE PROJECT  |
|--|---|--|--|
| <b>A2: Building Capacity</b>                 |   |  |  |
| <b>A2.1</b>                                  | Number of Standard Operating Procedures being utilised (SOP's are documented best practice for routine operations) is 3             | Continue to generate and document procedures for new initiatives.  | SOPs not available for comprehensive IAS management. This would result in poor management, use of resources and higher risks to the environment. |
| <b>A2.2</b>                                  | Pacific Invasive Learning Network team in place   | Increase cross-country collaborations and personnel development  | Tonga's PILN team operates in a silo and doesn't benefit from peer expertise.  |
| <b>A2.3</b>                                  | National invasive species cross-sectoral committee In place   | Hold and document IAS TAG meetings quarterly. Promote issues to the political level. E.g. harmonised legislation, funding requests.  | Cross-sectoral invasive species issues not well supported.   |
| <b>A2.4</b>                                  | National IAS coordinator in place for the past five years, not project funded (permanent)   | Continue to increase capacity in all areas including project management.   | Potentially turnover in staff and loss of institutional and expert knowledge due to slow progress being made.                                    |
| <b>A2.5</b>                                  | IAS workforce capacity – three full time equivalent staff   | Create invasive species field team with a wide base of field skills including: management of agrichemicals, weed management, monitoring baselines and changes, inter-island biosecurity, early detection/rapid response, restoration, train the trainers to work with communities. | Lack of capacity to implement priority invasive species management resulting in further degradation of biodiversity and extinction of species.   |
| <b>A3: Legislation, Policy and Protocols</b> |   |  |  |
| <b>A3.1</b>                                  | Invasive species legislation exists but is not harmonised   | Complete harmonization of legislation including inter-island biosecurity, use TAG to expedite approval process, create awareness of the new legislation.   | Poor awareness of legislation resulting in non-compliance and the further spread of invasive species.  |
| <b>A3.2</b>                                  | National Invasive Species Strategy Action Plan (NISSAP) structured to guidelines and being implemented.                             | Continue implementation of the NISSAP.<br>Seek further resources.  | NISSAP partially being implemented, many priorities left unmanaged.  |
| <b>A3.3</b>                                  | NISSAP is current, expiration date is 31 December 2020  | IAS TAG lead the review of the NISSAP, draft new document, seek and obtain endorsement from colleagues, publish new NISSAP in 2020 for next five years (2021-2025).  | NISSAP expires and is not reviewed and revised. Results in lack of government support.   |
| <b>A3.4</b>                                  | National Ballast water Management Strategy exists which is informed by SRIMPAC and party to the Ballast Water Management Convention | Determine opportunities to implement strategy.   | No resources to determine opportunities. Therefore strategy not implemented.   |

## Baseline definition, prioritization and decision-making baseline

**Table 10: Baseline definition, prioritization and decision-making baseline for Tonga**

| CURRENT BASELINE SITUATION                |  | CURRENT NEEDS TO MEET<br>INVASIVE SPECIES<br>PRIORITIES  | FUTURE SCENARIO<br>WITHOUT THE PROJECT  |
|---|--|--|---|
| <b>B1: Baseline and Monitoring Change</b> |  |  |   |
| <b>B1.1</b>                               | Terrestrial invasive species baseline surveys desktop survey completed                   | Complete invasive plant ground survey along road networks in Tongatapu, Hapa'ai and Vava'u. Capture in geo-referenced database.<br><br>Complete surveys for rodents and predators on priority islands. | No invasive plant ground surveys completed throughout the country. Resulting in Incomplete knowledge of existing species. |
| <b>B1.2</b>                               | No priority terrestrial invasive species monitored this year                             | Monitor all actively managed priority biodiversity sites using data collected during operations.   | No monitoring of individual taxa. Difficult to design a control strategy.   |
| <b>B1.3</b>                               | Priority terrestrial priority biodiversity sites baseline survey completed               | Complete further terrestrial priority biodiversity site surveys.   | Only two priority sites have baseline surveys. Resulting in further priority sites degrading in biodiversity value.       |
| <b>B1.4</b>                               | Between 51 and 75 percent of terrestrial priority biodiversity sites monitored this year | Monitor all actively managed priority biodiversity sites using data collected during operations.   | Many priority sites remain un-monitored. Resulting in impacts to biodiversity unknown.                                    |
| <b>B1.5</b>                               | Priority marine invasive species baseline survey completed                               | Monitor all actively managed priority biodiversity sites using data collected during operations.   |   |
| <b>B1.6</b>                               | No priority marine invasive species monitored this year                                  | Monitor all actively managed priority biodiversity sites using data collected during operations.   |   |
| <b>B1.7</b>                               | Marine priority biodiversity sites baseline survey completed                             | Increase awareness of the spread of marine invasive species from infested sites, such as port areas, to marine managed areas.  | Marine invasive species continue to be spread to priority marine sites.   |
| <b>B1.8</b>                               | Between 26 and 50 percent of marine priority sites monitored this year                   | Monitor all actively managed priority biodiversity sites using data collected during operations.   | Priorities and effectiveness of activities unknown.   |
| <b>B2: Prioritisation</b>                 |  |  |   |
| <b>B2.1</b>                               | Priority invasive species are identified with the Action Plan                            | Review priority invasive species following surveys, assess risk and include in next NISSAP if relevant.  | Incomplete surveys hinders prioritisation.  |
| <b>B2.2</b>                               | Pathways have been identified  | Update changes to pathways and their lists of invasive species in the next NISSAP.   | New pathways are not considered resulting in higher incursion rates.  |
| <b>B2.3</b>                               | Priority biodiversity sites are identified with the NISSAP                               | Review and update in the next NISSAP.  | No review of priority sites. Results in ecologically significant areas not being identified.                              |

| CURRENT BASELINE SITUATION        |   | CURRENT NEEDS TO MEET<br>INVASIVE SPECIES<br>PRIORITIES       | FUTURE SCENARIO<br>WITHOUT THE PROJECT                                |
|-----------------------------------|---|---|---|
| <b>B3: Research on priorities</b> |   |   |   |
| <b>B3.1</b>                       | Information links are established and maintained with regional agencies and research institutions | Maintain and build new links with regional assistance.        | No new links with assistance results in poorer decision making.       |
| <b>B3.2</b>                       | Best practice issues identified for research  | Identify any new research requirements and locate a provider. | No issues identified for research. Results in poorer decision making. |

## Management action baseline

**Table 11: Table of management action baseline for Tonga**

| CURRENT BASELINE SITUATION                     |   | CURRENT NEEDS TO MEET<br>INVASIVE SPECIES<br>PRIORITIES  | FUTURE SCENARIO<br>WITHOUT THE PROJECT  |
|--|---|--|---|
| <b>C1: Biosecurity</b>                         |   |  |   |
| <b>C1.1</b>                                    | Invasive species evident in countries with existing pathways are identified but environmental issues are not fully incorporated into national biosecurity | Train biosecurity officers in the identification of environmental risks identified from existing pathways.   | Biosecurity officers unaware of environmental risk species resulting in a higher number of invasive species incursions.                           |
| <b>C1.2</b>                                    | Species detected and response actioned under Early Detection Rapid Response plan  | Complete Early Detection Rapid Response plans for high priority species which don't have plans, carry out simulation exercises and procure equipment ready for standby.  | The country is at high risk of new arrival species becoming established due to lack of knowledge and planning.                                    |
| <b>C1.3</b>                                    | Priority risk species from neighbouring islands identified for inter-island biosecurity   | Complete Early Detection Rapid Response plans for high priority species which don't have plans, carry out simulation exercises and procure equipment ready for standby. Engage with the Police who are legislated to manage these risks. | Invasive species continue to be transferred between islands including those that have rats eradicated.  |
| <b>C2: Management of established Invasives</b> |   |  |   |
| <b>C2.1</b>                                    | No priority invasive plant species under management   | Initiate control programmes for high priority species following baseline surveys.  | High priority manageable invasive plants become widespread with on-going control becoming the only option rather than eradication of the species. |
| <b>C2.2</b>                                    | No priority invasive plant species have been eradicated   | Maintain species programmes for those priority species which can be feasibly be eradicated from an island or the country.  | No priority invasive plants eradicated resulting in widespread distribution of impacts.   |
| <b>C2.3</b>                                    | 4 invasive plants with biocontrol agents in place   | Re-ignite the biological control of weeds programme targeting weeds that have existing effective   | Widespread invasive plants, that have existing biocontrol agents  |



| CURRENT BASELINE SITUATION   |  | CURRENT NEEDS TO MEET<br>INVASIVE SPECIES<br>PRIORITIES   | FUTURE SCENARIO<br>WITHOUT THE PROJECT   |
|--|--|---|--|
|  |  | agents available. Determine priorities for novel targets.   | available elsewhere, continue to impact on the environment.  |
| <b>C2.4</b>  | No priority invasive animal species under management                                     | Review animal species priorities during NISSAP revision.  | Priority animal species remain undetermined.   |
| <b>C2.5</b>  | 1 animal invasive species (excluding rats) has been eradicated (Mongoose from Tongatapu) | Eradicate priority invasive animals as they are detected.   | Prioritised invasive animals spread and impact biodiversity.   |
| <b>C2.6</b>  | 5 islands have had rats eradicated   | Systematically eradicate rats from further islands prioritised by their biodiversity value, both terrestrial and marine values.   | Priority terrestrial and marine habitats degrade further and species become extinct.   |
| <b>C2.7</b>  | No priority marine invasive species are under management                                 | N/A   |  |
| <b>C2.8</b>  | No priority marine species have been eradicated  | N/A   |  |
| <b>C3: Restoration (some data also shown on the histogram above)</b> |  |   |  |
| <b>C3.1</b>  | 2 priority mainland sites are under restoration  | Maintain current restoration programmes and add new priority areas for community management.                                      | The number of invasive species taxa managed at the two sites remains unchanged. Other priority sites continue to degrade with species going extinct. |
| <b>C3.2</b>  | 1831 hectares of sites with a restoration plan   | Complete restoration plans for further priority areas.  | No further restoration plans created resulting in no coordinated action to reduce invasive species impacts.  |
| <b>C3.3</b>  | 24 hectares of sites with invasive plant management                                      | Maintain invasive plant management within existing priority sites and build capacity in the community for further priority sites. | No further priority sites added. Biodiversity loss continuing.   |
| <b>C3.4</b>  | 31 hectares of sites with predator control   | Maintain predator control within existing priority sites and build capacity in the community for further priority sites.          | No further priority sites added. Biodiversity loss continuing.   |
| <b>C3.5</b>  | 3000 plants planted this year for restoration  | Increase the availability of native plants through increased nursery capacity and engaging with the private sector.               | High value sites suffer from poor habitat structure resulting in slow restoration of values.   |
| <b>C3.6</b>  | 4000 plants planted to date  | Continue to improve the structure and diversity of priority sites with suitable native species.                                   | Slow restoration of important sites.   |
| <b>C3.7</b>  | 7 native species reintroduced to priority sites  | Continue to re-introduce species that have gone extinct from high priority sites including rare plants and animals.               | Opportunities to reintroduce species extinct from the site are lost.   |

100. Summary of Tonga scorecard performance:

- a. Generating support, building capacity, legislation/policy/protocols etc. (A1 to A3) – Tonga achieved close to the maxima
- b. Baseline monitoring, prioritisation and research (B1 to B3) – Tonga only scored twice at the maximum level and mostly did not score at all
- c. Biosecurity, management of established IAS and restoration – Tonga scored well in biosecurity, management of established IAS and restoration.

*Niue*

101. Analysis by the project team shows that, while significant progress has been made over the last five years during Niue's participation in the GEF PAS IAS project, there are still important improvements which should be made with regard to the management and eradication of IAS and biosecurity:

- a. Inter-government agency coordination needs to be improved via a national body which is responsible for the implementation of the NISSAP
- b. Opportunities for bio-control of widespread IAS need investigation and implementation
- c. Ongoing monitoring and evaluation of IAS already established needs implementation
- d. Risk assessment and pathway analysis coupled with mitigation measures are required to improve national biosecurity
- e. Outreach and awareness programmes are required to capture public support and secure long term IAS and biosecurity as priority issues for the Government agencies
- f. There is a significant opportunity for including the general public in IAS control and eradication efforts via the village infrastructure
- g. Niue has a unique opportunity to eradicate IAS mammals from the country which would have profound benefits nationwide for its native terrestrial biodiversity
- h. IAS and biosecurity needs to be further mainstreamed into permanent Government funding of positions thus ensuring the sustainability of IAS/Biosecurity programmes in Niue.
- i. Marine IAS threats and mitigation has not been systematically nor formally established
- j. Quarantine is under-resourced in order to secure the country against further incursions of pests and diseases

102. Niue's National Biodiversity Strategy and Action Plan (Tongatule *et al.* 2015) includes management of IAS as "Theme four" – of its eight themes. Under the IAS theme there are nine objectives all of which align with the objectives and activities of the current project. Thus Niue has formally and systematically identified IAS as a threat to its biodiversity and agriculture and the need for biosecurity to reduce the chances of new IAS establishing and aggravating the impacts of IAS.

103. The Niue NISSAP (Niue 2013) summarises the threats IAS pose to Niue's unique terrestrial biodiversity. It describes a process for managing the threat which includes an action plan (structured following the Guidelines) and how its implementation should be monitored and evaluated. The Plan identifies the priority IAS which requires management (mammals, plants and invertebrates) plus the management actions required to mitigate their threats.

104. Niue was a successful participant in the GEF PAS IAS project (GEF ID 3664). Again, a detailed account of the achievements is available on-line ([www.thegef.org](http://www.thegef.org)) in the Terminal Evaluation and in SPREP (2016b). Again, the lessons learnt identified in both documents include setting up a regional support service and establishing on-island local capacity to run IAS programmes before operational work starts.

105. At the 24<sup>th</sup> SPREP meeting in Apia in 2014 (see Paragraph 54) Niue endorsed the creation of the current project and, consistent with this directive, it is along with the other three countries, a full participant. Other Pacific Island Countries will participate via the regional component. Hence Niue has had a consistent strong commitment to mitigating the impacts of IAS and improving its biosecurity to reduce the chances of new invasions.

106. The GEF 5 “Ridge to Reef” project (UNDP 2015; [www.thegef.org](http://www.thegef.org) GEF ID 88927/PIMS 5258) implementation will overlap with the current project. During the in-country consultative process for the current project, the Ridge to Reef (R2R) project management team met to discuss complementarity between the two projects and ensure maximum cooperation. Collaboration will be possible around the following which are included in the R2R: consulting villages (partly to avoid over-burdening the villages with time spent talking); mitigating threats to Protected Natural Areas (e.g. Huvalu Conservation Area) including IAS (will be discussed on a case by case basis); use of learning centres to be created by the R2R project (one each terrestrial and marine); Department of Environment weed spraying programme; biodiversity surveys (including possibly marine); steering committee business.

107. Niue has a full complement of statutes and regulations to underwrite its border quarantine functions. The vast majority of visitors to Niue enter via the airport since it does not have a port designed to accept regular tourist vessels. However, up to three tourist vessels per year off-load up to 1500 passengers each time doubling the population of Niue in the process. At these times border quarantine is severely taxed although the visitors only stay for a few hours before departing so they are not bringing in luggage. Airport quarantine is operational albeit requiring capacity building.

108. Niue’s tiny size and isolation compounds its lack of technical capacity. Traditionally it has relied on New Zealand and Australia for technical support and institutional support mechanisms. This deficit of technical capacity is even more acute with highly technical areas such as IAS management or eradication and biosecurity. The R2R project does not explicitly address this need whereas the current project will do so.

109. Awareness levels of the threats posed by IAS and the corresponding need for sound biosecurity and quarantine are high in Niue – due in part to the recent successes of the GEF PAS IAS Niue sub-project. Thus there is an ideal opportunity to capitalise on this heightened awareness and cement long term the capacity of the Niuean Government and establish a network using the villages for active protected area management tackling their main threat which are IAS. Further opportunity is provided by being able to collaborate with the R2R project which will run more or less contemporaneously with the current project. Both will add value to each other as described in more detail below.

110. No biocontrol of pest species has yet been attempted on Niue albeit there are significant opportunities such as with taro leaf vine (*Epipremnum aureum*) including other pest species for which the biocontrol agents have been identified and certified for use in the Pacific. Hence this presents another opportunity for the project albeit some pest species may require full biocontrol assessment possibilities.

## Foundations baseline

**Table 12: Foundations baseline for Niue**

| GUIDELINES THEMES AND PERFORMANCE INDICATORS |   | CURRENT NEEDS TO MEET INVASIVE SPECIES PRIORITIES   | FUTURE SCENARIO WITHOUT THE PROJECT  |
|--|---|---|--|
| <b>A1: Generating Support</b>                |   |   |  |
| <b>A1.1</b>                                  | Few positive examples of invasive species management for raising awareness. Awareness gradually waning resulting in further distribution of invasive species. | Awareness programmes are active in 2 target areas (Community and Political)   | Declining awareness leading to decreased capacity for invasive species management                        |
| <b>A1.2</b>                                  | Slow uptake in behaviour change towards invasive species resulting in further distribution of invasive species.   | Behaviour change recorded in 1 target areas (Political)   | More invasive species reduce examples of indigenous biodiversity   |
| <b>A2: Building Capacity</b>                 |   |   |  |
| <b>A2.1</b>                                  | SOPs not available for comprehensive IAS management.  | Number of Standard Operating Procedures being utilised (SOPs are documented best practice for routine operations) is 5          | Poor management, use of resources and higher risks to the environment.                                   |
| <b>A2.2</b>                                  | Niue's PILN team operates in a silo   | Pacific Invasive Learning Network team in place   | Niue's PILN doesn't benefit from peer expertise.   |
| <b>A2.3</b>                                  | Cross-sectoral invasive species issues not well supported.  | National IAS sector committee in place  | Efforts to manage invasive species are fragmented  |
| <b>A2.4</b>                                  | Slow progress in development  | National IAS coordinator in place for the past five years, not project funded (permanent)                                       | Potential turnover in staff and loss of institutional and expert knowledge leading to decreased capacity |
| <b>A2.5</b>                                  | Lack of capacity to implement priority invasive species management  | Workforce capacity – 8 full time equivalent staff. This will utilise staff currently employed by the Department of Agriculture. | Further degradation of biodiversity and extinction of species.   |
| <b>A3: Legislation, Policy and Protocols</b> |   |   |  |
| <b>A3.1</b>                                  | Poor awareness of legislation   | Harmonised invasive species legislation   | Non-compliance and the further spread of invasive species.   |
| <b>A3.2</b>                                  | NISSAP partially being implemented,   | National Invasive Species Strategy Action Plan (NISSAP) structured to guidelines and being implemented.                         | Many priorities left unmanaged.  |
| <b>A3.3</b>                                  | NISSAP expires and is not reviewed and revised.   | NISSAP is current, expiration date is 31 December 2021  | Results in lack of government support.   |
| <b>A3.4</b>                                  | No resources to determine opportunities   | No National Ballast Water Management Strategy exists  | Strategy not being implemented.  |

## Baseline definition, prioritization and decision-making baseline

**Table 13: Baseline definition, prioritization and baseline for decision-making for Niue**

| GUIDELINES THEMES AND PERFORMANCE INDICATORS |   | CURRENT NEEDS TO MEET INVASIVE SPECIES PRIORITIES   | FUTURE SCENARIO WITHOUT THE PROJECT  |
|--|---|---|--|
| <b>B1: Baseline and Monitoring Change</b>    |   |   |  |
| <b>B1.1</b>                                  | Terrestrial invasive species baseline survey results captured in a geo-referenced digital format. (Structured spreadsheet, GIS, etc.) | No monitoring of individual taxa. A control strategy needs to be designed and implemented.                          | The survey results become obsolete. Any control efforts are adhoc  |
| <b>B1.2</b>                                  | Between 76 and 100 percent of priority terrestrial invasive species monitored this year   | Only two priority sites have baseline surveys. Resulting in further priority sites degrading in biodiversity value. | A lack of monitoring results in poor decision making   |
| <b>B1.3</b>                                  | Terrestrial priority biodiversity sites baseline surveys desktop survey completed   |   | Many priority sites remain un-monitored. Resulting in negative impacts to biodiversity.                            |
| <b>B1.4</b>                                  | Between 76 and 100 percent of terrestrial priority biodiversity sites monitored this year   | Monitor all actively managed priority biodiversity sites using data collected during operations.                    | A lack of monitoring results in poor decision making   |
| <b>B1.5</b>                                  | Marine invasive species baseline desktop survey completed   | Monitor all actively managed priority biodiversity sites using data collected during operations.                    |  |
| <b>B1.6</b>                                  | No priority marine invasive species monitored this year   | Monitor all actively managed priority biodiversity sites using data collected during operations.                    | A lack of monitoring results in poor decision making   |
| <b>B1.7</b>                                  | Marine priority biodiversity sites baseline desktop survey completed  | Priorities and effectiveness of activities unknown.   | Marine invasive species continue to be spread to priority marine sites.  |
| <b>B1.8</b>                                  | No marine priority sites monitored this year  | Monitor all actively managed priority biodiversity sites using data collected during operations.                    | Priorities and effectiveness of activities unknown.  |
| <b>B2: Prioritisation</b>                    |   |   |  |
| <b>B2.1</b>                                  | Priority invasive species are identified with the Action Plan   | Review priority invasive species following surveys, assess risk and include in next NISSAP if relevant.             | Incomplete surveys hinder prioritisation.  |
| <b>B2.2</b>                                  | Pathways have been identified   | Update changes to pathways and their lists of invasive species in the next NISSAP.                                  | New pathways are not considered resulting in higher incursion rates.   |
| <b>B2.3</b>                                  | Priority biodiversity sites are identified within the NISSAP  | Review and update in the next NISSAP.   | The NISSAP is not reviewed resulting in a breakdown of strategic IAS management and negative biodiversity outcomes |

| <b>B3: Research on priorities</b> |   |   |   |
|-----------------------------------|---|---|---|
| <b>B3.1</b>                       | Information links are established and maintained with regional agencies and research institutions | Maintain and build new links with regional assistance.        | No new links with assistance results in poorer decision making.       |
| <b>B3.2</b>                       | Best Practice management research procedures identified   | Identify any new research requirements and locate a provider. | No issues identified for research. Results in poorer decision making. |

## Management action baseline

**Table 14: Management action baseline for Niue**

| <b>GUIDELINES THEMES AND PERFORMANCE INDICATORS</b>   |   | <b>CURRENT NEEDS TO MEET INVASIVE SPECIES PRIORITIES</b>  | <b>FUTURE SCENARIO WITHOUT THE PROJECT</b>  |
|---|---|---|---|
| <b>C1: Biosecurity</b>                                |   |   |   |
| C1.1  | National biosecurity incorporates identified environmental risks into their border control operations | Raise awareness of biosecurity legislation to visitors and returning residents.   | Biosecurity officers unaware of environmental risk species resulting in a higher number of invasive species incursions                                  |
| C1.2  | Species detected, and response actioned under Early Detection Rapid Response plan                     | Complete Early Detection Rapid Response plans for high priority species which don't have plans, carry out simulation exercises and procure equipment ready for standby. | The country is at high risk of new arrival species becoming established due to lack of knowledge and planning.  |
| C1.3  | Priority risk species from neighbouring islands identified for inter-island biosecurity               | Not applicable - Only one island.   |   |
| <b>C2: Management of established invasive species</b> |   |   |   |
| C2.1  | 6 priority invasive plant species under management  | Maintain current control programmes for high priority species. Review Taro vine programme and implement adjustments.  | Other high priority manageable invasive plants become widespread with on-going control becoming the only option rather than eradication of the species. |
| C2.2  | 0 priority invasive plant species have been eradicated  | Maintain species programmes for those priority species which can be feasibly be eradicated from the country.  | No priority invasive plants eradicated resulting in widespread distribution of impacts.   |
| C2.3  | 2 invasive plants with biocontrol agents in place   | Re-ignite the biological control of weeds programme targeting weeds that have existing effective agents available. Determine priorities for novel targets.              | Widespread invasive plants, that have existing biocontrol agents available elsewhere, continue to impact on the environment.                            |
| C2.4  | 2 priority invasive animal species under management   | Maintain current programmes and review animal species priorities during NISSAP revision.  | Remaining invasive animal species become widespread and negatively impact biodiversity  |

| GUIDELINES THEMES AND PERFORMANCE INDICATORS |  | CURRENT NEEDS TO MEET INVASIVE SPECIES PRIORITIES  | FUTURE SCENARIO WITHOUT THE PROJECT   |
|--|--|--|---|
| C2.5   | No animal invasive species (excluding rats) have been eradicated | Eradicate priority invasive animals as they are detected.  | Prioritised invasive animals spread and impact biodiversity.                |
| C2.6   | 0 islands have had rats eradicated                               | Produce feasibility and operational plans for rat (and cat) eradications on Niue   | Rats continue to degrade the environment                                    |
| C2.7   | 1 priority marine invasive species are under management          | Continue community management where required   | Other marine invasive species continue to spread and impact on biodiversity |
| C2.8   | 0 priority marine species have been eradicated                   | Systematically determine whether any marine IAS are threatening biodiversity   | Remains unknown if any marine invasive species threaten biodiversity        |
| <b>C3: Restoration</b>                       |  |  |   |
| C3.1   | 0 priority sites are under restoration                           | Initiate community restoration programmes in priority sites.   | Sites continue to suffer from degraded biodiversity                         |
| C3.2   | 0 hectares of sites with a restoration plan                      | Complete restoration plans for community restoration sites.  | Sites continue to suffer from degraded biodiversity                         |
| C3.3   | 0 hectares of sites with invasive plant management               | Include invasive plant management within community priority sites and build capacity in the community.                                 | Sites continue to suffer from degraded biodiversity                         |
| C3.4   | 0 hectares of sites with predator control                        | Include predator control within community priority sites and build capacity in the community.  | Predators continue to impact indigenous species. Expect further extinctions |
| C3.5   | 0 plants planted this year for restoration                       | Increase the availability of native plants through increased nursery capacity and engaging with the private sector and/or communities. | Sites continue to suffer from degraded biodiversity                         |
| C3.6   | 0 plants planted to date   | Improve the structure and diversity of priority sites with suitable native species where required.                                     | Sites continue to suffer from degraded biodiversity                         |
| C3.7   | 0 native species reintroduced to priority sites                  | Re-introduce species that have gone extinct from high priority sites including rare plants and animals.                                | Further missed opportunities for ecological restoration                     |

111. Niue's achievements in its scorecard were not as well populated as Tonga's so their achievements (and the other two countries) have been summarised (outside of the histograms) rather than systematically accounting for every query in the questionnaire.



112. Summary of Niue's baseline scorecard performance:

- a. Foundations baseline – Niue scored the maximum in three areas (greater awareness, national coordinator in place, NISSAP exists); under scored in three (PILN team in place; national IAS cross-sectoral committee exists; IAS/Biosecurity legislation in force); did not score (awareness raising; national ballast water strategy exists). Three maxima could not be established but attracted national scores – workforce implement best practice; national IAS coordinator in place and current NISSAP in place
- b. Problem definition, prioritisation and decision making baseline – maximum scored in six areas (completing a baseline survey for IAS; monitoring priority IAS; one quarter of priority IAS affected sites monitored; priority IAS identified; priority IAS sites identified; best practices for tackling priority IAS identified); underscores given for baseline surveys of IAS at two priority sites completed; no scores given for four areas (all areas relating to marine IAS)
- c. Management action baseline – maximum scored in one area (baseline surveys for IAS); national achievement scores made in five areas without maxima possible to make for comparison (priority plant IAS under management; priority plant IAS biocontrol agents in place; priority animal IAS management in place; priority marine IAS under management [noting the score was low]; plant IAS management included in restoration project[s])
- d. Note – maxima were estimated but national achievement was not possible for Early Detection and Rapid Response and inter-island biosecurity (Niue is a one island state)

*Republic of the Marshall Islands (RMI)*

113. The RMI is a member of the SPREP and in this capacity (like Tonga and Niue) has consistently endorsed and participated in regional initiatives involving IAS. In 1998 it, along with all other PICT member states (including the then four metropolitan member countries of USA, France, Australia and New Zealand), endorsed the permanent establishment of an IAS programme in the SPREP Secretariat (then funded by New Zealand). Since 1998 RMI has taken opportunities as they have arisen to join IAS programmes including the GEF PAS IAS project and the current project demonstrating its commitment to improving its management of the IAS threat to its biodiversity and biosecurity.

114. Following the country consultation by the project preparation team and analysis of the RMI's scorecard the following areas were recorded as requiring improvement for IAS mitigation and improving RMI's biosecurity:

- a. Inter-government agency coordination needs to be improved via a national body which is responsible for the implementation of the NISSAP
- b. Opportunities for bio-control of widespread IAS need investigation and implementation
- c. Ongoing monitoring and evaluation of IAS already established needs implementation
- d. Risk assessment and pathway analysis coupled with mitigation measures are required to improve national biosecurity – from international sources as well as internally from atoll to atoll and within atoll inter-island pathways.
- e. Outreach and awareness programmes are required to capture public support and secure long-term IAS and biosecurity as priority issues for the Government agencies
- f. There is a significant opportunity for including the general public in IAS control and eradication efforts via the village infrastructure
- g. IAS and biosecurity needs to be further mainstreamed into permanent Government funding of positions thus ensuring the sustainability of IAS/Biosecurity programmes in RMI.



- h. Marine IAS present a particular threat because of the large volume of tuna fishing related shipping in and out of Majuro ports. These threats and mitigation options have not been systematically nor formally identified
- i. Quarantine is under-resourced in order to secure the country against further incursions of pests and diseases from the marine sector or air traffic.
- j. EDRR behaviours exist in RMI quarantine as demonstrated by officer's response to the discovery of giant African snail and the Carolina anole lizard which included delimiting surveys and, in the case of the snail, an attempt at eradicating it. Preventive measures have already been in place such as pheromone traps for Rhinoceros beetle (new bio-type). Hence with training and equipment, RMI quarantine will be able to establish an effective EDRR capacity for a yet to be determined priority list of potential IAS
- k. Marine biodiversity survey is being carried out regularly by Marshall Islands Marine Resources Authority and Marshall Islands Conservation Society including photographic based survey using standard methodology (GIS referenced etc.). These surveys are part of a Reimaanlok (national development plan) process and have to date involved 8 (of 19) atolls – about 50-75% of island/islets (depending on how these are counted). Some of these surveys date from 2004 thus allowing longitudinal comparative studies and facilitating the identification of IAS and monitoring change (including those induced by climate change). This applies best to Majuro (the capital island with most of the population and external shipping contact) which has received regular monitoring over the past 10 years at 15 sites. The marine biodiversity above will continue during the project (independently funded and organised) and will provide an important contribution when identification of marine IAS is introduced into the methodology which is now needed.
- l. RMI has completed to State of Environment reports (1992 and 2016) which contain some limited information on IAS again pointing to the need for a comprehensive systematic monitoring system for terrestrial ecosystems and up-grading the marine monitoring programmes already underway.
- m. Aquaculture for fish species is established in Majuro and being developed further and potentially expanding to include IAS fish species such as Tilapia which have already been detected outside of the fish enclosures signalling the need for quarantine around such activities and again the importance of establishing marine biodiversity monitoring including IAS.
- n. While habitat restoration projects have yet to be instituted in RMI and will be required, possibly the more urgent requirement is the recovery of at least two endangered terrestrial species – the local endemic *Ducula* Pacific pigeon (*D. pacifica ratakensis*) on the outer islands of Majuro Atoll and the skink *Emoia b.* on Mili and Majuro Islands. The former is a flagship species for conservation and has suffered dramatic range reduction in recent years almost certainly due to predation pressure from rats and hunting. Rat eradication from the last islands to retain the pigeon (Majuro Atoll) would secure this iconic species from extinction in RMI. Outreach activities related to IAS management in pigeon habitat will be linked to efforts to enforce the RMI Endangered Species Act 1975, which provides legal protection for this species.
- o. Habitat restoration is needed for RMI which essentially require IAS management and eradication such as LIB Island (south of Kwajalein), Mili Atoll (including rat eradication on Naulu islet) and Namdrik Atoll (also a RAMSAR site). IAS work on Lib would support its candidacy as a RAMSAR site. Threatened species work already mentioned would effectively meet restoration needs for Majuro Atoll's northern islands of Bokanbotin,

- Denneo, Bikirin and Eneko. The collective management of these islands is required to afford protection for the Pacific pigeon because the population uses all of them as habitat.
- p. Majuro is one of the biggest fishing ports in the Pacific with foreign fishing vessels including “mother ships” remaining for significant periods with attendant Marine biosecurity implications. RMI has a draft Ballast Water Strategy
  - q. RMI’s Environment Protection Agency has a rat-free certification process for foreign shipping however it needs up-grading and its adequacy verified.
  - r. The GEF 5 Ridges to Reef project has yet to start. Its work programme involves protected natural areas (terrestrial/marine) on five atolls: Aur, Likiep, Ebon, Wotho and Mejit – possibly including IAS work – if they are perceived as threats to natural assets and sustainable management of the protected natural areas. Close cooperation between the R2R and the current project will be essential to maximise outputs for both.
  - s. A national support service coordinated from Majuro for the atolls’ environmental management tasks is needed to facilitate atoll community efforts
  - t. There is no comprehensive outreach mechanism for environmental issues available to all atoll

## Foundations baseline

**Table 15: Foundations baseline for RMI**

| GUIDELINES THEMES AND PERFORMANCE INDICATORS |   | CURRENT NEEDS TO MEET INVASIVE SPECIES PRIORITIES   | FUTURE SCENARIO WITHOUT THE PROJECT   |
|--|---|---|---|
| <b>A1: Generating Support</b>                |   |   |   |
| <b>A1.1</b>                                  | Awareness programmes are active in 2 target areas (Political and community)   | Continue generating support for IAS management, extra focus on schools  | Few positive examples of invasive species management for raising awareness. Awareness declines resulting in further spread of invasive species because of the lack of public awareness. |
| <b>A1.2</b>                                  | Behaviour change recorded in 1 target areas (Political)   | Continue generating support for changing behaviour to support IAS management, particular focus on the community and schools | Few if any changes made in the behaviour of the general public with the result that the threat from IAS and declining biosecurity standards remain.                                     |
| <b>A2: Building Capacity</b>                 |   |   |   |
| <b>A2.1</b>                                  | Number of Standard Operating Procedures being utilised (SOP's are documented best practice for routine operations) is 0 | Continue to generate and document procedures for new initiatives.   | SOPs not available for comprehensive IAS management resulting in substandard IAS / biosecurity practices and consequent ineffective mitigation of threats.                              |
| <b>A2.2</b>                                  | Pacific Invasive Learning Network team in place   | Increase cross-country collaborations and personnel development   | RMI’s PILN team remains isolated and does not benefit from external support from peers.   |

|  |   |  |  |
|--|---|--|--|
| <b>A2.4</b>                                  | National IAS coordinator in place for the past five years (Agriculture), not project funded (permanent)                             | Establish a National Invasive Species Coordinator to include cross-sectoral approach and less focused on agriculture. Continue to increase capacity in all areas including project management.   | No individual to drive IAS / biosecurity work and able to assume responsibility for a national programme with the nett result of increased risk from IAS and poor biosecurity. |
| <b>A2.5</b>                                  | Workforce capacity – 8 full time equivalent staff   | Create invasive species field team with a wide base of field skills including: management of agrichemicals, weed management, monitoring baselines and changes, early detection/rapid response, restoration, train the trainers to work with communities. | Lack of capacity to implement priority invasive species management resulting in further degradation of biodiversity and extinction of species.                                 |
| <b>A3: Legislation, Policy and Protocols</b> |   |  |  |
| <b>A3.1</b>                                  | Some Invasive species legislation but fragmented, Biosecurity Bill in draft form  | Ensure Biosecurity Bill is endorsed and passed into legislation. Raise awareness of the new legislation.   | No empowerment of implementing Government agencies, lack of awareness of legislation - all resulting in non-compliance and the further spread of invasive species.             |
| <b>A3.2</b>                                  | National Invasive Species Strategy Action Plan (NISSAP) structured to guidelines but not being implemented.                         | Accelerate implementation of the NISSAP.<br>Seek further resources.  | NISSAP relatively ineffective with many priorities left unmanaged.   |
| <b>A3.3</b>                                  | NISSAP current, expiration date is 31 December 2021   | IAS TAG lead the review of the NISSAP, draft new document, seek and obtain endorsement from colleagues, publish new NISSAP in 2021 for next five years (2022-2026).  | NISSAP expires and is not reviewed and revised. Results in lack of government support and coordination for IAS / biosecurity activities.                                       |
| <b>A3.4</b>                                  | National Ballast Water Management Strategy exists which is informed by SRIMPAC and party to the Ballast Water Management Convention | Determine opportunities to implement strategy  | Allocation of resources to meet commitments does not happen and resulting consequences of poor ballast water management result.  |

## Baseline definition, prioritization and decision-making baseline

Table 16: Baseline definition, prioritization and decision-making baseline for RMI.

| GUIDELINES THEMES AND PERFORMANCE INDICATORS |   | CURRENT NEEDS TO MEET INVASIVE SPECIES PRIORITIES   | FUTURE SCENARIO WITHOUT THE PROJECT   |
|--|---|---|---|
| <b>B1: Baseline and Monitoring Change</b>    |   |   |   |
| <b>B1.1</b>                                  | Terrestrial invasive species baseline surveys desktop survey completed  | Enter priority species data into a geo-referenced database.   | No invasive plant ground surveys completed throughout the country resulting in incomplete knowledge and information base for existing species.                      |
| <b>B1.2</b>                                  | Between 26 and 50 percent of priority terrestrial invasive species monitored this year  | Monitor all actively managed priority biodiversity sites using data collected during operations.        | Many priority species remain un-monitored resulting in negative impacts to biodiversity.  |
| <b>B1.3</b>                                  | Terrestrial priority biodiversity sites baseline surveys desktop survey completed   | Integrate IAS Management into the Reimaanlok Process  | Reimaanlok Process would not incorporate biodiversity conservation.   |
| <b>B1.4</b>                                  | No terrestrial priority biodiversity sites monitored this year  | Monitor all actively managed priority biodiversity sites using data collected during operations.        | Many priority invasive species remain un-monitored. Resulting in a lack of information necessary to inform conservation management, advocacy, public awareness etc. |
| <b>B1.5</b>                                  | Marine invasive species baseline desktop survey completed   | Recommendations from survey reports need to be actioned   | Recommendations have little or no chance of being implemented   |
| <b>B1.6</b>                                  | Up to 25 percent of priority marine invasive species monitored this year  | Continue to work with/support Marshall Islands Conservation Society in marine survey work               | Little chance of marine IAS being monitored, or new invasions detected.   |
| <b>B1.7</b>                                  | Marine priority biodiversity sites baseline survey results captured in a geo-referenced digital format (Structured spreadsheet, GIS, etc) | Educate communities to identify marine invasive species that could invade.                              | Community support for EDRR minimal resulting in a higher chance of new marine IAS establishing  |
| <b>B1.8</b>                                  | Between 26 and 50 percent of marine priority sites monitored this year  | Continue to work with support from Marshall Islands Conservation Society in marine survey work          | Many priority sites remain un-monitored. Resulting in negative impacts to biodiversity and declining support from MICS.   |
| <b>B2: Prioritisation</b>                    |   |   |   |
| <b>B2.1</b>                                  | Priority invasive species are identified with the NISSAP  | Review priority invasive species following surveys, assess risk and include in next NISSAP if relevant. | Incomplete or unverified surveys hinder or prevent prioritisation and work programmes.  |

|                                   |  |  |  |
|-----------------------------------|--|--|--|
| <b>B2.2</b>                       | Pathways have been identified  | Update changes to pathways and their lists of invasive species in the next NISSAP.   | New pathways are not identified resulting in higher incursion rates.   |
| <b>B2.3</b>                       | Priority biodiversity sites are identified with the NISSAP   | Review and update in the next NISSAP.  | No review of priority sites. Results in ecologically significant areas not being identified and protected against IAS.                                 |
| <b>B3: Research on priorities</b> |  |  |  |
| <b>B3.1</b>                       | Information networks are established and maintained with regional agencies and research institutions | Maintain and build new links with regional assistance.   | Any existing networks decline or cease and benefits from external expertise to national management of IAS and biosecurity ceases or becomes minimal.   |
| <b>B3.2</b>                       | No research identified   | Develop feasibility studies and operational plans for rat eradications at key biodiversity sites and for bulbul control/eradication. | Decision making is not informed by best available science and technical information and this information does not motivate new IAS / biosecurity work. |

## Management action baseline

**Table 17: Management action baseline for RMI**

| GUIDELINES THEMES AND PERFORMANCE INDICATORS          |   | CURRENT NEEDS TO MEET INVASIVE SPECIES PRIORITIES  | FUTURE SCENARIO WITHOUT THE PROJECT  |
|---|---|--|--|
| <b>C1: Biosecurity</b>                                |   |  |  |
| <b>C1.1</b>   | National biosecurity incorporates identified environmental risks into their border control operations | Create identification materials for quarantine and extension agents.   | Biosecurity officers unaware of environmental risk species resulting in a higher number of invasive species incursions.                                      |
| <b>C1.2</b>   | No Early Detection Rapid Response Plans   | Complete Early Detection Rapid Response plans for high priority species which don't have plans, carry out simulation exercises and procure equipment ready for standby | The country is at high risk of new arrival species becoming established due to lack of capacity, knowledge and planning.                                     |
| <b>C1.3</b>   | Inter-island biosecurity not present  | Inter-island biosecurity systems and processes need to be established  | Invasive species continue to be transferred between islands including those that already have rats eradicated.   |
| <b>C2: Management of established invasive species</b> |   |  |  |
| <b>C2.1</b>   | 2 priority invasive plant species under management  | Maintain and review current control programmes for high priority species. Review procurement procedures and align with a lowest toxicity policy.                       | High priority manageable invasive plants become widespread with on-going control becoming the only option rather than eradication of the species with down - |

| GUIDELINES THEMES AND PERFORMANCE INDICATORS |  | CURRENT NEEDS TO MEET INVASIVE SPECIES PRIORITIES  | FUTURE SCENARIO WITHOUT THE PROJECT  |
|--|--|--|--|
|  |  |  | stream consequences of less benefits to biodiversity.  |
| C2.2   | 1 priority invasive plant species has been eradicated                                    | Maintain species programmes for those priority species which can be feasibly be eradicated form the country.   | Opportunities to eradicate priority invasive plants eradicated are missed resulting in widespread distribution and impacts and foregoing future options of eradication.        |
| C2.3   | 1 invasive plants with biocontrol agents in place  | Reinstate the biological control of weeds programme targeting weeds that have existing effective agents available. Determine priorities for novel targets. | Widespread invasive plants that have existing biocontrol agents (and hence present an available option) continue to impact on the environment.                                 |
| C2.4   | 4 priority invasive animal species under management                                      | Maintain current programmes and review animal species priorities during NISSAP revision.   | High impact invasive animals spread and continue to degrade biodiversity assets.   |
| C2.5   | 2 animal invasive species (excluding rats) have been eradicated (Mongoose and Cane Toad) | Eradicate new IAS animals when they are detected at the border or as founder populations.  | New high risk invasive species establish and continue to impact indigenous biodiversity  |
| C2.6   | 0 islands have had rats eradicated   | Eradicate rats from priority biodiversity sites.   | Rats continue to degrade indigenous ecosystems   |
| C2.7   | 1 priority marine invasive species is under management                                   | Continue community management where required   | Remaining marine invasive species degrade indigenous marine ecosystems   |
| C2.8   | 0 priority marine species have been eradicated   | Marine IAS which are a threat to biodiversity are identified and assessed for intervention options.  | Marine invasive species degrade indigenous ecosystems  |
| <b>C3: Restoration</b>                       |  |  |  |
| C3.1   | 0 priority mainland sites are under restoration  | Initiate community restoration programmes in priority sites.   | Opportunities to restore sites of high ecological value are not taken with the result that further degradation of these sites occurs.  |
| C3.2   | 0 hectares of sites with a restoration plan  | Complete restoration plans for community restoration sites.  | No plans will basically mean no site restoration will occur.   |
| C3.3   | 0 hectares of sites with invasive plant management                                       | Include invasive plant management within community priority sites and build capacity in the community.   | The absence of community participation will result ineffective or zero pest plant control or management.   |
| C3.4   | 0 hectares of sites with predator control  | Include predator control within community priority sites and build capacity in the community.  | Community based predator barriers will be essential for preventing new invasions and reinvasions into restoration sites. Community participation will not occur in the absence |

| GUIDELINES THEMES AND PERFORMANCE INDICATORS |   | CURRENT NEEDS TO MEET INVASIVE SPECIES PRIORITIES  | FUTURE SCENARIO WITHOUT THE PROJECT   |
|--|---|--|---|
|  |   |  | of this project and restoration at sites will not occur.  |
| <b>C3.5</b>                                  | 0 plants planted this year for restoration      | Increase the availability of native plants through increased nursery capacity and engaging with the private sector and/or communities. | The inclusion of nursery bred plants into restoration projects (led or supported by communities) will not occur or at best with minimal added value. Validation through inclusion of nurseries into site restoration projects will not occur. |
| <b>C3.6</b>                                  | 0 plants planted to date                        | Improve the structure and diversity of priority sites with suitable native species where required.                                     | Status quo will prevail and outcome as above.   |
| <b>C3.7</b>                                  | 0 native species reintroduced to priority sites | Re-introduce species that have gone extinct from high priority sites including rare plants and animals.                                | Status quo will prevail and no reintroductions will occur.  |

#### 115. Summary of RMI's scorecard:

##### a. Foundations Baseline

- i. Community level awareness programmes on IAS, Biosecurity and Biodiversity values were recognised as a priority but had not been implemented – minimum score (1)
- ii. Government personnel behaviour change towards IAS and Biosecurity has occurred with several initiatives including EDRR and eradication projects – minimum score (1)
- iii. A Pacific Invasives Learning Network (national) up until 2015 – minimum score (1)
- iv. No national committee in place for IAS / Biosecurity – minimum score (1)
- v. National IAS coordinator permanently appointed – cross sectoral roles – but not working throughout the country effectively – score – 2
- vi. Quarantine staff numbers – 8 staff based in Majuro. Twelve extension officers to be appointed in March 2018 for at least one year also with IAS/Biosecurity responsibility – score 2
- vii. Biosecurity bill presently with the Attorney General's office but needs review. It includes marine IAS/biosecurity and harmonises IAS/biosecurity between Government and public sectors – score – 1.
- viii. NISSAP exists but is not fully implemented – due for assessment, review and re-write for next period during the course of the current project – score 2.
- ix. Ballast water and hull fouling – no strategy in place but a signatory to the Globallast Convention – score – 1

##### b. Problem definition, prioritisation and decision making baseline

- x. Relatively comprehensive marine and terrestrial baseline surveys for indigenous biota have been done but IAS in the main have not

- xi. Regular marine monitoring activities on sites of ecological importance do occur but not on terrestrial sites. Jaluit and Nambul sites are monitored as RAMSAR reserves
  - xii. A NISSAP is current and priority IAS and their pathways have been identified
  - xiii. Research priorities and threats have been identified but not actioned
- c. Management action
- xiv. Environmental values are integrated into the new draft Biosecurity Act currently with the Attorney General's Office. However, inter-island biosecurity may need to be incorporated into it.
  - xv. EDRR capacity is extremely limited
  - xvi. Weed control has historically had some success with the eradication of Lantana on the capital island of Majuro and another three species under management. Biocontrol options have not been fully taken and needs an action plan for weeds and animal pest species.
  - xvii. No animal eradications have been achieved
  - xviii. No marine IAS management or eradications have been attempted

### *Tuvalu*

116. The National Environmental Management Strategy (Tuvalu Department of Environment 2015) is used by Government of Tuvalu as its environment policy document guiding environmental decision making and setting priorities. The Department of the Environment is mandated to implement the NEMS under the Environment Act 2008. However, its resources, human and financial are extremely limited to carry out these responsibilities. The NEMS is a five year policy guide (2015–2020) and aligns with the National Sustainable Development Strategy, and other national strategic action plans endorsed by the Tuvalu Government. It also signals a commitment by Tuvalu towards the Multilateral Environment Agreements (MEA) it has signed (such as the Convention on Biological Diversity), and for agreements under the Small Islands Developing States (SIDS) "S.A.M.O.A. Pathway" (which specifically mention IAS). IAS appear under the NEMS theme "island biodiversity conservation and management" and policy goal "to protect and conserve the biodiversity of Tuvalu". The relevant strategic policy objective reads "Prevent the entry of invasive species and manage their impacts on biodiversity." Apart from the small amount of work done IAS and Biosecurity during the GEF PAS IAS project, little further work has been done before or since hence highlighting the relevance of the current project.

117. The NEMS also identifies a priority setting up an Environment Trust Fund to provide a permanent financing mechanism for environmental work to be established by 2020 – during the course of the present project. The capitalisation of the fund includes revenue from taxation including a "green fee" on airport passengers to be in place by 2018. Another priority (set for 2017) is an IAS (and by implication biosecurity) plan and "regulation" – which again aligns directly with the current project.

118. Tuvalu has a draft NBSAP (Government of Tuvalu 2012) which has been valid until 2016. It notes eight rank-ordered thematic areas by "stakeholders" which directly relate to IAS and biosecurity: 3<sup>rd</sup> Conservation of Species, Ecosystems (Marine, Coastal, and Terrestrial) and Genetic Diversity, and 6<sup>th</sup> Trade, Biosecurity and Food Security. Further analysis of priority issues showed that IAS were an issue for all nine islands except Funafuti. Further, IAS were ranked against nine other issues the most significant issue for Vaitupu Island and third for Nanumea, Niuvao and Niu, fifth most important for Nukufatau and Nukulaelae, and sixth for Nanumaga. Priority actions relating to IAS which were identified in the NBSAP included: 1. Conduct surveys to identify invasive species and the extent of damage to biodiversity and economy of Tuvalu overall, 2. Review, strengthen and enforce legislations



to better manage and control invasive species and 3. Develop and implement invasive management plan(s). National Reporting has occurred since 2009 but at the time of writing no revised NBSAP was in evidence. Hence, again, the current programme should align well with further revisions of the NBSAP.

119. Tuvalu has established ten conservation areas (CA) on eight of its nine islands, only one of which has been established under formal legislation; the rest have been established by local communities and managed by traditional systems. The Funafuti Marine Conservation Area (FMCA) was established with the assistance of the South Pacific Biodiversity Conservation Programme (SPBCP - a GEF funded initiative), AusAID and SPREP. The CA is managed by the kaupule (traditional community council) (Government of Tuvalu 2012).

120. The Pacific wide GEF 5 funded “Ridges to Reef” programme includes a national project for Tuvalu (UNDP 2015b). In its project document, IAS or biosecurity gets one mention in Component 2.1.3 which relates to the marine algal blooms of *Sargassum polycystu*.

121. Baseline biodiversity inventory style information is available for some islands of Tuvalu – particularly Funafuti albeit one key marine near-shore survey that was carried out by marine biologists from the New Zealand Department of Conservation cannot be located at the time of writing. The GEF PAS Integrated Island Biodiversity Conservation project was to have carried out a baseline biodiversity survey (termed “Biorap” – see [www.sprep.org](http://www.sprep.org) “resources” for examples) but this did not eventuate. Subsequently the aforementioned Tuvalu “Ridge to Reef” project did fund and facilitate a type of Biorap but based on information gathered from experts interviewing local communities (Thaman *et al.* 2017). This study included a comprehensive account of terrestrial fauna and flora (native and exotic) occurring on most islands of Tuvalu plus a discussion of the status of IAS and so affords as accurate account as could be practically expected of the baseline situation for IAS in Tuvalu.

122. In the course of assessing the possible impacts of climate change on coastal habitat including marine biota in Tuvalu near-shore habitats, a comprehensive survey of biodiversity was conducted around Funafuti Atoll. In their executive summary Moore *et al.* (2014) describe “The Secretariat of the Pacific Community (SPC) is implementing the ‘Monitoring the Vulnerability and Adaptation of Coastal Fisheries to Climate Change’ project with funding assistance from the Australian Government’s International Climate Change Adaptation Initiative (ICCAI). This initiative aims to assist Pacific Islands Countries and Territories (PICTs) to determine whether changes are occurring in the productivity of coastal fisheries and, if changes are found, to identify the extent to which such changes could be attributed to climate change, as opposed to other causative factors. This report presents the results of the second round of monitoring conducted in Funafuti Atoll, Tuvalu, in April-May 2013. Collected data have been compared to that from the 2011 survey to examine changes in resource status over time.” Hence, in the course of implementing this study, it has established base-line marine biodiversity data (including fin-fish, benthic and invertebrates) and qualitative habitat descriptions in and outside of the Conservation Area on Funafuti Atoll including ocean and lagoon sides. However, this study did not include the Port region in Funafuti and indeed no marine survey before or since has apparently done so (Lale Petaia, Senior Fisheries Officer pers. Comm.). Further, this and other informal surveys have not identified the presence of marine IAS. However, the 2011 and the 2013 study should provide a frame of reference for inferring the identification of future marine IAS at least around Funafuti and probably also in the port district. Lale also described marine surveys around the other eight islands of Tuvalu by Fisheries Department but these studies are unpublished. However, potentially they should also be able to provide a baseline on which to infer the presence of marine IAS on these islands.

123. The baseline survey and country consultation led to the identification of the following issues:

- a. Border security is at risk because importing building materials and probably other items is occurring from other countries directly to islands in the country and not through the national port on Funafuti
- b. EDRR was virtually non-existent in terms of risk assessment, training and materials/equipment. Similarly, an IAS risk assessment and associated pathways analysis has not been done (including considering the results of marine and terrestrial IAS surveys – see below)
- c. Inter-island biosecurity strategy and activities are non-existent
- d. There is a high risk of marine IAS incursions due to bad ballast water practices and an absence of mitigating IAS incursion from hull fouling
- e. Baseline data exist for indigenous marine biodiversity, but these do not include information on marine IAS. Hence there is a need for capacity building in identification of marine invasive species which could potentially invade Tuvalu waters and these skills need to be incorporated into the regular marine biodiversity surveys. Significantly (from an IAS/Biosecurity) point of view – the port area in Funafuti has not been surveyed for any biodiversity.
- f. Nationally, some baseline data exist (for marine and terrestrial habitats, including recent surveys e.g. Thaman *et al.* 2017) but these need to be systematically and comprehensively compiled as does technical information on them
- g. One invasive marine algae (*Sargassum polycistum*) has been identified as a threat to near shore habitat around Funafuti Atoll and assessed through actions funded by the “R2R” project (see De Ramon and Iese 2014). Mitigation actions have been established albeit implementing them has yet to occur.
- h. Outreach activities especially to the public on IAS/Biosecurity have been virtually non-existent
- i. The legislative foundations for mitigating the risks associated with IAS and establishing biosecurity standards are well laid out with the Biosecurity Act – a statute passed by Parliament in late 2017. Remaining needs (as with other statutes relating to IAS/Biosecurity and associated regulations) centre on rigorous implementation/enforcement.
- j. While in recent history there has been a PILN group in Tuvalu, it is not functional today and, similarly, there is no NISSAP or TAG for IAS/Biosecurity to facilitate the implementation of relevant regulations or activities relating to mitigating the risks of IAS or establishing biosecurity standards
- k. There are 3 quarantine officers (covering the airport and seaport) and these and others from the Marine and Port Services (number not known) undertake inspections.
- l. Government officers require basic training in most of the skills associated with IAS management, eradication and restoration. Similarly, skills associated with biosecurity and quarantine are also required. For example, these needs include – weed management and usage of chemicals; monitoring changes in baseline information; restoration techniques; EDRR methodology for recognised priority risk species; eradication protocols and inter-island biosecurity.
- m. Tuvalu has not yet carried out any terrestrial eradications of IAS such as rodents but has started control of Yellow Crazy Ants albeit the latter work requires up-grading and further resources. However, it has removed dogs from three islands – Nukulaelae, Nanumea and Vaitupu.
- n. Similarly, Tuvalu has not carried out any weed control programmes nor introduced any biocontrol agents for their management. However, options for weed control have been

identified including - *Leucaena leucocephala*, *Mimosa pudica*, *Senna occidentalis* and *Sesbania Cannabina*

- o. A cultural change is required in Government agencies responsible for IAS and biosecurity in terms of willingness to enforce regulations and taking initiative or taking initiative on mitigating high risk (with respect to IAS/biosecurity) situations (e.g. importation of plant products, ensuring the complete elimination of a new incursion immediately it is discovered)
- p. Tuvalu's protected area system has started well with establishing the Funafuti Conservation Area in 1996 later captured by the Conservation Act 1999. The Act allows the establishment of Locally Managed Marine Areas (LMMA's) managed by the Falekaupule (approximately equivalent to a village council) and Kaupule (local government) of which there are now eleven on all nine islands in Tuvalu. All these protected areas require IAS/biosecurity management.
- q. No restoration projects have been carried out although the native fig tree (*Ficus tinctoria*), breadfruit tree (*Artocarpus altilis*) and pandanus (*Pandanus* sp.) have been replanted on some islands.
- r. Discussions between the various Government agencies involved with environmental management signalled there was some contradictory elements between national laws, local law and regulations thus pointing to a need for some harmonisation – possibly via a review included in the next NBSAP and similarly in the NISSAP with regards to IAS/biosecurity

## Foundations baseline

Table 18: Foundations baseline for Tuvalu

| GUIDELINES THEMES AND PERFORMANCE INDICATORS |   | CURRENT NEEDS TO MEET INVASIVE SPECIES PRIORITIES   | FUTURE SCENARIO WITHOUT THE PROJECT  |
|--|---|---|--|
| <b>A1: Generating Support</b>                |   |   |  |
| <b>A1.1</b>                                  | No awareness programmes are active in any target areas.   | Create an awareness programme for invasive species management focused on schools, community and political engagement.                   | Awareness programme will not happen and public and political support will decline and become virtually non-existent.                                       |
| <b>A1.2</b>                                  | No behaviour change recorded in any target areas  | Generating support for changing behaviour to support IAS management, particular focus on the community and schools and political level. | Few if any changes made in the behaviour of the general public with the result that the threat from IAS and declining biosecurity standards remain.        |
| <b>A2: Building Capacity</b>                 |   |   |  |
| <b>A2.1</b>                                  | Number of Standard Operating Procedures being utilised (SOP's are documented best practice for routine operations) is 1 | Continue to generate and document procedures for new initiatives.   | SOPs not available for comprehensive IAS management resulting in substandard IAS / biosecurity practices and consequent ineffective mitigation of threats. |
| <b>A2.2</b>                                  | Pacific Invasive Learning Network team in place   | Increase cross-country collaborations and personnel development   | PILN team remains isolated and does not benefit from external support from peers.  |

| GUIDELINES THEMES AND PERFORMANCE INDICATORS |   | CURRENT NEEDS TO MEET INVASIVE SPECIES PRIORITIES  | FUTURE SCENARIO WITHOUT THE PROJECT   |
|--|---|--|---|
| <b>A2.3</b>                                  | National invasive species cross-sectoral committee In place   | Hold and document IAS TAG meetings quarterly. Promote issues to the political level. E.g. funding requests.  | Institutional support of IAS / biosecurity activities does not occur resulting in ineffective and inefficient responses and reduction in the effectiveness of advocacy work.  |
| <b>A2.4</b>                                  | No National IAS coordinator in place  | Establish a National Invasive Species Coordinator to include cross-sectoral approach. Continue to increase capacity in all areas including project management.   | No individual to drive IAS / biosecurity work and able to assume responsibility for a national programme with the nett result of increased risk from IAS and poor biosecurity.  |
| <b>A2.5</b>                                  | Workforce capacity – 3 full time equivalent staff   | Create invasive species field team with a wide base of field skills including: management of agrichemicals, weed management, monitoring baselines and changes, early detection/rapid response, restoration, train the trainers to work with communities. | The opportunity for creating an inclusive working arrangement involving a field team, NISSAP manager, all overseen by a TAG will be lost along with the chance to most effectively manage IAS / biosecurity with available resources. |
| <b>A3: Legislation, Policy and Protocols</b> |   |  |   |
| <b>A3.1</b>                                  | Harmonised Invasive species legislation exists but is not being implemented   | Ensure awareness and enforcement of legislation. Raise awareness of the new legislation.   | Effective enforcement of relevant statutes will not occur. Officials and public will have minimal awareness of IAS / biosecurity regulations.   |
| <b>A3.2</b>                                  | No National Invasive Species Strategy Action Plan (NISSAP)  | Create a NISSAP, get endorsed.   | A NISSAP will not be produced with the result that most IAS / biosecurity work will not be motivated in-country.  |
| <b>A3.3</b>                                  | No current NISSAP   | IAS TAG led the creation of the NISSAP to ensure cross-sectoral endorsement.   | As above.   |
| <b>A3.4</b>                                  | National Ballast water Management Strategy exists which is informed by SRIMPAC and party to the Ballast Water Management Convention | Ballast water strategy aspects related to IAS picked up by NISSAP TAG and steps taken to implement them.   | Allocation of resources to meet commitments does not happen and resulting consequences of poor ballast water management result.   |

## Problem definition, prioritisation and decision making

**Table 19: Problem definition, prioritization and decision making baseline for Tuvalu**

| GUIDELINES THEMES AND PERFORMANCE INDICATORS |   | CURRENT NEEDS TO MEET INVASIVE SPECIES PRIORITIES   | FUTURE SCENARIO WITHOUT THE PROJECT   |
|--|---|---|---|
| <b>B1: Baseline and Monitoring Change</b>    |   |   |   |
| <b>B1.1</b>                                  | Terrestrial invasive species baseline surveys completed                       | Enter priority species data into a geo-referenced database.   | Incomplete information on IAS status compromises setting priorities, informing monitoring and evaluation and EDRR (new incursions not recognised).  |
| <b>B1.2</b>                                  | Up to 25 percent of priority terrestrial invasive species monitored this year | Monitor all actively managed priority biodiversity sites using data collected during operations.                            | Evaluating management effectiveness and assessing new threats are not possible.   |
| <b>B1.3</b>                                  | Priority terrestrial priority biodiversity sites baseline survey completed    | Integrate IAS Management into the Reimaanlok Process  | Reimaanlok Process (especially biodiversity aspects) does not benefit from an IAS / biosecurity project and is less effective as a result.  |
| <b>B1.4</b>                                  | No terrestrial priority biodiversity sites monitored this year                | Monitor all actively managed priority biodiversity sites using data collected during operations.                            | Status of ecologically significant sites with/without IAS / biosecurity input remains unknown and downstream consequences – effectiveness of any control or eradication and whether the condition of sites is improving or declining. |
| <b>B1.5</b>                                  | Priority marine invasive species baseline survey completed                    | Results of marine IAS survey and priority recommendations incorporated into national work plan and supervised by NISSAP TAG | Marine IAS survey results and recommendations remain not implemented.   |
| <b>B1.6</b>                                  | Up to 25 percent of priority marine invasive species monitored this year      | Monitor all actively managed priority biodiversity sites using data collected during operations.                            | No marine IAS monitoring occurs and minimal if any collaboration with the Society occurs.   |
| <b>B1.7</b>                                  | Marine priority biodiversity sites baseline survey completed                  | Educate communities to identify marine invasive species that may arrive   | Baseline survey will not be completed and an opportunity to engage community support is lost.   |
| <b>B1.8</b>                                  | No marine priority sites monitored this year                                  | Monitor all actively managed priority biodiversity sites using data collected during operations.                            | Survey of priority marine sites continues to be incomplete.   |

| <b>B2: Prioritisation</b>         |   |  |  |
|-----------------------------------|---|--|--|
| <b>B2.1</b>                       | No prioritisation of invasive species has been done           | Review informal priority invasive species, assess risk and include in NISSAP.  | Priority setting function does not happen including assessing risks and the NISSAP remains without this essential information. |
| <b>B2.2</b>                       | No Pathways Identified  | Determine pathways and their lists of invasive species during NISSAP creation.   | Pathway analysis remains incomplete – possibly absent altogether – and the analysis is not incorporated into the NISSAP        |
| <b>B2.3</b>                       | No prioritisation of priority biodiversity site has been done | Formally prioritise priority sites in the NISSAP.  | Priority sites are not formally listed or incorporated systematically into the NISSAP – planning or implementation.            |
| <b>B3: Research on priorities</b> |   |  |  |
| <b>B3.1</b>                       | No research information used                                  | Maintain and build new links with regional assistance.   | Opportunities to build and benefit from regional support networks like the PILN and the PRISMSS (or similar) is lost.          |
| <b>B3.2</b>                       | No research   | Develop feasibility studies and operational plans for rat eradications at key biodiversity sites and priority invasive plants. | Critical research required to carry out many IAS and biosecurity activities does not occur.                                    |

## Management action baseline

**Table 20: Management action baseline for Tuvalu**

| <b>GUIDELINES THEMES AND PERFORMANCE INDICATORS</b>   |   | <b>CURRENT NEEDS TO MEET INVASIVE SPECIES PRIORITIES</b>  | <b>FUTURE SCENARIO WITHOUT THE PROJECT</b>   |
|---|---|---|--|
| <b>C1: Biosecurity</b>                                |   |   |  |
| <b>C1.1</b>   | National biosecurity incorporates identified environmental risks into their border control operations | Create identification materials for quarantine and extension agents.  | Quarantine and extension agents have inadequate materials to identify possible new incursions and RMI's risk of new incursions of IAS increases. |
| <b>C1.2</b>   | No Early Detection Rapid Response Plans   | Complete Early Detection Rapid Response plans for high priority species, carry out simulation exercises and procure equipment ready for standby | EDRR plans and associated activities such as training will not occur and the risk of RMI incurring further loss to IAS increases dramatically.   |
| <b>C1.3</b>   | Priority risk species from neighbouring islands identified for inter-island biosecurity               | Train island extension officers in the identification and EDRR processes for priority risk species.   | Training does not occur and the risk of inter-island invasions within the RMI archipelagos increases dramatically.                               |
| <b>C2: Management of established invasive species</b> |   |   |  |
| <b>C2.1</b>   | 0 priority invasive plant species under management  | Create a high priority invasive plant control programmes. Review  | Priority control programme for plants is not created nor the   |

| GUIDELINES THEMES AND PERFORMANCE INDICATORS |  | CURRENT NEEDS TO MEET INVASIVE SPECIES PRIORITIES   | FUTURE SCENARIO WITHOUT THE PROJECT  |
|--|--|---|--|
|  |  | procurement procedures and align with a lowest toxicity policy.   | procedures or other technical requirements identified.   |
| C2.2   | 0 priority invasive plant species have been eradicated   | Maintain species programmes for those priority species which can be feasibly be eradicated from the country.  | No priority plant species are eradicated.  |
| C2.3   | 0 invasive plants with biocontrol agents in place  | Initiate a biological control of weeds programme targeting weeds that have existing effective agents available. Determine priorities for novel targets. | Options for using existing biological control agents are not adopted.  |
| C2.4   | 3 priority invasive animal species under management (dogs, rats, yellow crazy ant)                         | Maintain current programmes and assess other priority animal species during NISSAP creation.  | No priority IAS animal species management programmes are implemented.  |
| C2.5   | 1 animal invasive species (excluding rats) have been eradicated (dogs from Nukulaelae and Vaitupu islands) | Eradicate priority invasive animals as they are detected.   | No priority IAS animal species eradication programmes are implemented.   |
| C2.6   | 0 islands have had rats eradicated   | Eradicate rats from key biodiversity sites.   | No IAS animals are eradicated from priority sites.   |
| C2.7   | 0 priority marine invasive species are under management  | Engage community management where required  | No IAS animals are managed at priority sites with community support.   |
| C2.8   | 0 priority marine species have been eradicated   | Identify options for eradicating known priority marine IAS  | No options are identified and the process for possible eradication of high priority marine IAS is not started.                                     |
| <b>C3: Restoration</b>                       |  |   |  |
| C3.1   | 0 priority mainland sites are under restoration  | Initiate community restoration programmes in priority sites.  | No priority mainland sites for restoration are under community-based management regimes.   |
| C3.2   | 0 hectares of sites with a restoration plan  | Complete restoration plans for community restoration sites.   | Restoration plans which include community participation are not created.   |
| C3.3   | 0 hectares of sites with invasive plant management   | Include invasive plant management within community priority sites and build capacity in the community.  | No priority plant IAS are managed nationally.  |
| C3.4   | 0 hectares of sites with predator control  | Include predator control within community priority sites and build capacity in the community.   | As above – for animal IAS  |
| C3.5   | 0 plants planted this year for restoration   | Increase the availability of native plants through increased nursery capacity and engaging with the private sector and/or communities.                  | Opportunities to use plants grown from nurseries lost and with it the chance to engage communities in restoration projects requiring revegetation. |



| GUIDELINES THEMES AND PERFORMANCE INDICATORS |   | CURRENT NEEDS TO MEET INVASIVE SPECIES PRIORITIES   | FUTURE SCENARIO WITHOUT THE PROJECT   |
|--|---|---|---|
| <b>C3.6</b>                                  | 0 plants planted to date                        | Improve the structure and diversity of priority sites with suitable native species where required.      | Diversification of natural areas by planting does not occur.  |
| <b>C3.7</b>                                  | 3 native species reintroduced to priority sites | Re-introduce species that have gone extinct from high priority sites including rare plants and animals. | No reintroductions occur and restoration and species recovery or conservation projects are stalled. |

124. In summary Tuvalu's scorecard revealed:

- a. Foundations - A PILN coordinator has been in place in the recent past and there is an awareness of the need for a NISSAP and a coordinating group for IAS/biosecurity in Tuvalu such as a TAG/NISSAP committee
- b. Problem definition – significant progress in terrestrial and marine Biodiversity baseline information albeit lacking for marine IAS and not recorded in systematic or Darwin standard format for terrestrial IAS
- c. Management action – there is an awareness of inter-island biosecurity and the need for its improvement as a priority; dogs have been eradicated from three islands albeit they probably did not threaten biodiversity values and some rat and YCA control has been implemented but probably for quality of life-style reasons; a few “native” (one or two possibly not present in pre-human times) have been re-introduced although probably not for purposes of restoring natural biodiversity values and more about food/cultural values.

## *2.7 Linkages with other GEF and non-GEF interventions*

125. The project will be carried out in close coordination with other relevant GEF and non GEF projects/initiatives in the region and countries participating in them.

126. The GEF 5 funded Ridge to Reef (so called “R2R”) projects currently underway or about to start (RMI) have been identified above in the baseline descriptions for each country. The current project's activities and outputs will compliment and provide support to the R2R projects (as assessed during the baseline analysis) in the four participating countries and could do so for other R2R projects in the region should they want to make use of the IAS/biosecurity support service provided for in Component 4.

127. Information generated from the current project will contribute to the GEF 5 “Building national and regional capacity to implement MEA's by strengthening planning and state of the environment assessment and reporting in the Pacific Islands” (GEF ID 5195). This will be facilitated by SPREP being the EA for both projects. Allied benefits include providing information for National Reporting for NBSAP's and similar instruments. IAS/biosecurity information from the survey and monitoring activities contained in the project will also inform national planning and accounting needs as well as informing the regional scale planning.

128. GEF 6 funded Biodiversity projects in the Pacific region will also benefit. Most of them have at least an indirect element of IAS/biosecurity activities and outputs. Examples include Vanuatu's “ECARE” (Expanding Conservation Areas Reach and Effectiveness; GEF ID 9847, FSP) and Solomon Islands “EREPA” (Ensuring resilient ecosystems and representative protected areas; GEF ID 9846 FSP) projects which include marine and terrestrial IAS components respectively. Country colleagues from these and other countries in the region (especially involved with executing GEF funded projects) will be invited to attend all capacity building activities run by the regional support



service component of the current project. Linkages with the Solomon Islands project will be facilitated given that SPREP is also EA for this project.

129. GEF 6 funded Fiji project “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” (GEF ID 9095) will benefit since it has a significant focus on IAS eradication and inter-island biosecurity. Thus it will stand to benefit from many of the services provided by the PRISMSS (see Section Three).

130. Similarly, the GEF 6 project “Safeguarding biodiversity from invasive alien species in the Federated States of Micronesia” (GEF ID 9917) will be able to use the PRISMSS since its work plan includes developing statutes, regulations, biosecurity training, outreach, economic impacts of IAS etc. – aligned closely with the present project.

131. The Solomon Islands Biodiversity GEF 6 project “Ensuring resilient ecosystems and representative protected areas in the Solomon Islands (“EREPA”) (GEF ID 9846) has a significant IAS/biosecurity content which will be directly linked to the current projects’ PRISMSS via the common Executing Agency – SPREP. This will ensure some common benefit for both projects.

132. The project will contribute to the Global Biodiversity Information Facility (Project ID BID-PA2016-0005-REG) “Regional and National Alien and Invasive Species Data and Information Mobilisation and Capacity Building in the Pacific” project for which SPREP is the Executing Agency. One of the central aims of the project is to publish invasive species data and use it for decision-making. While the project is expected to finish end of January 2019 – before the present project is fully underway – data generated from such activities as baseline surveys will be used to further populate global databases using standards such as the Darwin core.

133. The Pacific Invasives Partnership (URL <http://www.sprep.org/Pacific-Invasives-Partnership/invasive-partnerships>) is a professional liaison of agencies and individuals involved with IAS/biosecurity work in the Pacific. The current project will benefit the projects being supported by this association as well as the PIP supporting the current project. While hard to quantify or guarantee it is almost certain the current project will generate further IAS/biosecurity activity in the region outside the terms of reference of the current project if not generate entire new projects.

134. The Pacific Community have the following projects which are relevant to the current project:

- a. Australian Centre for International Agricultural Research capacity building for biosecurity including workshops and production of the Pest List Database – both services available for the whole region. Project budget approved and the scheduled to run from 2019 to 2022 hence overlapping with the current project.
- b. Standards and Trade Development Facility – implementation of sanitary and phyto-sanitary standards for the region. A project which provides a platform for surveillance methodology, improving biosecurity standards and supplying materials and equipment. Available for all PICTs and due to be implemented during the current project albeit funding and timing is yet to be finalised.
- c. European Development Fund (11) Sanitary and Phytosanitary Biosecurity project to include all PICT’s. Project involves IAS/BIOSECURITY monitoring and evaluation methods development and training; monitoring and evaluation methods to improve biosecurity. Project funding approved and due to run 2019 to 2023
- d. Green Climate Fund project at concept stage: Transboundary pests and diseases – FAO and SPC are Implementing and Executing Agencies respectively. This project will support the Regional Plant Protection Organisation and is expected to run between 2019 and 2023.

## SECTION 3: INTERVENTION STRATEGY (ALTERNATIVE)

### *3.1 Project rationale, policy conformity and expected global environmental benefits*

135. The project is a logical follow-on from the GEF PAS (GEF 4) “Prevention, control and management of invasive alien species in the Pacific Islands” (GEF ID 3664) continuing to develop the Pacific region’s capacity to mitigate the impacts of IAS and improve biosecurity standards, particularly in the four participating countries over the term of the project and beyond. This project will establish a Pacific Regional Invasive Species Management Support Service (PRISMSS) whose *modus operandi* will be tested and improved during the implementation of the project with the participating countries. At the same time the PRISMSS will be available to all other Pacific Island Countries and Territories (PICT’s) on a “pay as you go basis” (fares to workshops, DSA etc.). All on line information and interactive technical support will also be available to the PICTs (and others outside the region) on an as requested basis.

136. This project will model, demonstrate and provide proof of concept of a new approach to mitigating the impacts of IAS and improving biosecurity in the Pacific Region which involves coordinated, collaborative and integrated responses supported by a regional support service which will ensure the best possible practices and knowledge are brought to bear at the local country level. At the same time, a comprehensive training scheme for all aspects of IAS and biosecurity management will be provided to enable the countries to grow their capacity to manage IAS and improve biosecurity. The establishment of the PRISMSS within the lead regional environment agency in the Pacific means that unnecessary and inefficient duplication of a technical service is avoided in each country.

137. By definition biosecurity is most effectively mitigated off-shore from a given country and so the approach this project is taking should see the start of a process and mechanism to most efficiently improve the biosecurity of SIDS in the Pacific which are extremely dispersed and therefore pose the greatest challenge to instituting biosecurity standards.

138. The model this project aims to establish in the Pacific will also trial the sustainability of a PRISMSS concept which will receive contributions from future projects/activities associated with IAS/biosecurity to support its continued function based in SPREP. At the same time the project is focused on developing national capacity and ensuring IAS/biosecurity staff are mainstreamed into core Government business thus ensuring sustainability at country level. IAS management and biosecurity are highly technical and evolving rapidly and this, coupled with staff turnover in-country, will mean that a PRISMSS will be required in the long term. However, the PRISMSS nature and means of operating will continually have to evolve to meet the growing and changing nature of the threat of IAS to biodiversity and the biosecurity challenges brought about by increasing globalisation.

139. This project supports BD1 and BD2 of the GEF 6 Programming Directions – Improve sustainability of protected area systems and Reduce threats to globally significant biodiversity. It contributes to the Convention on Biological Diversity Strategic Plan including a recognised driver of biodiversity loss – invasive alien species. The project contributes specifically to the CBD Strategic Plan Goal B – Reduce direct pressures (on BD) and Aichi Target 9 Achieve effective IAS management, and GEF biodiversity objective BD 5. Similarly, the project contributes to Goal C – enhance the state of biodiversity and Aichi Targets 11 – expansion of protected area networks and effective management, and Target 12 – prevent extinctions and improve the status of threatened species. Target 11 aligns with GEF BD programmes 1 to 4 and 7, and Target 12 with programmes 1 to 4 and 5. Being a cross-cutting issue IAS and Biosecurity projects have far reaching benefits and impact on other Aichi Targets, CBD Strategic Goals and GEF BD objectives and programmes.

140. The project is consistent with past CBD COP decisions such as Goal 6 of COP8: Control threats to island biological diversity from IAS. This Goal calls for collaborative pathway analyses at the island, national, regional and global level, combined with the establishment of effective control systems at national and inter-island borders. It also calls for the development and implementation of measures for early detection of and rapid response to the introduction or establishment of IAS in both terrestrial and aquatic ecosystems and prevention, as well as eradication and management plans for long term management of priority IAS. The project is consistent with the global and regional aims of the CBD's Global Island Partnership, which assists islands to conserve and sustainably use their natural resources by bringing together islands worldwide in an attempt to mobilise leadership, increase the resource pool, and share skills, knowledge, technologies and innovations in a cost-effective way.

141. The project is exceptional in that it has incorporated Marine IAS into mainstream IAS mitigation and improving Biosecurity. Thus, the project will help countries eventually meet their obligations under the SRIMP-PAC strategy (yet to be ratified Regional Strategy for Shipping Related Invasive Marine Pests in the Pacific – facilitated by SPREP – the Executing Agency for this project) which is allied to the Ballast Water Management Convention and the GEF-UNDP-IMO Globallast Programme which has now closed. It will also provide modest support (for example providing baseline biodiversity data at ship mooring sites) to the development of the new project “GloFouling Partnerships Project” (GEF-UNDP-IMO GEF project ID 9605) which includes Tonga as one of the Pilot Countries. Again, SPREP is contributing as a Regional Coordinating Organisation so collaboration between the two projects should be optimised.

142. The project will assist countries directly meeting objectives in their NBSAP's including reporting empirical information on the status and any changes of IAS in-country. The reason this project will be so significant for countries implementing their NBSAP's is because IAS is the major threat to native biodiversity. NISSAP's are specifically designed to tackle IAS and hence contribute to the NBSAP process. This project will progress the NISSAP concept past a simple agreed document to one of a professionally/technically supported process in-country backed up by the PRISMSS.

143. This project's structure follows the Pacific region's invasive species management strategy “Guidelines for Invasive Species Management in the Pacific” (Tye 2009) which was formally approved by all of the countries participating in this project and others belonging to the SPREP Council (see earlier). The Guidelines were also used to structure the GEF PAS IAS project and has been used to structure IAS in the Pacific region ever since. Hence this project will help institute a logical and effective structure to dealing with IAS and biosecurity.

144. The Guidelines are compatible with relevant international, regional and national conventions and strategies. As above some of the most important global instruments covering invasive species issues include the Convention on Biological Diversity and its current Island Programme of Work, the Cartagena Protocol on Biosafety, the International Plant Protection Convention, the International Convention for Control and Management of Ships' Ballast Water and Sediments, and the Global Strategy on Invasive Alien Species. Relevant regional strategies include the Pacific Action Strategy for Nature Conservation, the Pacific Plan, the regional strategy on Shipping-Related Introduced Marine Pests in the Pacific islands (SRIMP-PAC) and the SPC Land Resources Division Strategic Plan. Relevant national strategies include National Biodiversity Strategies and Action Plans (NBSAPs), National Invasive Species Strategic Action Plans, National Biosafety Frameworks and National Development Strategies.

145. At global level the project is expected to contribute to the maintenance of globally significant biodiversity and ecosystem goods and services that biodiversity provides to society. This includes mitigating the IAS threats to endangered fauna and flora and improving the natural qualities of their

habitat and natural habitats generally in a category of ecosystems which make up one of 25 of the world's biodiversity hotspots (such as the Polynesia – Micronesia Hotspot which includes the primary countries in this project), with high levels of endemism and at the same time some of the highest rates of extinction globally (Conservation International 2007). IAS compromise catchment quality and soil retention so their mitigation will improve Climate Change resiliency.

146. The benefits of this project will be regional because it is expected that other countries in the Pacific region will avail themselves of the PRISMSS. Indeed it is expected that other SIDS regions with similar projects running concurrently such as the Caribbean project Preventing Costs of Invasive Alien Species (IAS) in Barbados and the OECS Countries (GEF ID 9408 for which UN Environment is also the IA as it is for this project) will be able to benefit from lessons learnt in a UN Environment facilitated information / skills sharing forum involving the two projects mentioned and others in mainland situations. For example, UN Environment is proposing to provide a common web-site available to both projects' participants which will link them to all technical resources (e.g. Battler series which will eventually be a comprehensive collection of manuals covering all aspects of IAS/ biosecurity management) plus a list server providing answers to technical queries to be provided by the PRISMSS and the CABI Trinidad office (the EA of the Barbados and OECS project). SPREP as EA of the current project will invite country National Project Coordinator (or equivalent) colleagues from the Caribbean to attend Pacific Island Learning Network meetings and training courses, make all technical material available from its on-line "Battler" Invasive Species resource base, link such websites between the Pacific and Caribbean, and conduct a study tour of NPC's from the Pacific in Caribbean countries (providing acceptability to participating countries).

### *3.2 Project goal and objective*

147. The project goal is to demonstrate proof of concept of a sustainable framework for mitigating the impacts of IAS on the natural environment and native biodiversity and reducing this threat through improved biosecurity and the control or eradication of established IAS.

148. The objective of this project is "Reduce the threats from Invasive Alien Species to terrestrial, freshwater and marine biodiversity in the Pacific by developing and implementing comprehensive national and regional IAS management frameworks".

### *3.3 Project components and expected results*

149. The project will achieve its goal and objective by successfully implementing four components. Components 1 to 3 relate to the four participating countries and Component 4 to the Pacific regional invasive species management support service (PRISMSS) which will be available to all PICTs on an as requested basis. The service will be pro-actively offered to the PICTs through fora such as the PILN, SPREP Environment Forum, SPC country support programme and others. A detailed account of the expected results of the project is given in Appendix 4 Results Framework.

#### ***Component 1: Strengthening institutional frameworks and capacities for IAS management.***

*Outcome 1.1 All participating countries have a comprehensive and effective administrative framework established and countries are enabled to manage invasive alien species*

150. The project will ensure that each of the four participating countries has a comprehensive, technically capable and effective administrative framework in place driving the management of IAS and support Biosecurity standards. The following outputs will be delivered to achieve this Outcome:

1.1.1 National cross-sectoral and gender-balanced IAS technical advisory groups established and operational in all four participating countries

1.1.2 Expert input towards strengthened IAS legislation, regulations and policies in place in four countries

1.1.3 One NISSAP written for Tuvalu; three NISSAPs reviewed and up-dated for the other countries

1.1.4 Administrative systems and processes to implement NISSAPs are in place allowing their efficient implementation in all participating countries

1.1.5 Field based operational implementation teams are trained in best practice and standard operational procedures and mobilised in four countries

*Output 1.1.1 National cross-sectoral and gender-balanced IAS technical advisory groups established and operational in all four participating countries*

151. Prior to and during the PPG process a scorecard style assessment of the state of IAS management and Biosecurity of each country was made which has been reported in Section 2. This assessment has been used to determine which activities are required to produce the outputs and deliverables as described in Appendix 4 (Results Framework). These activities/outputs were formulated and agreed to by country colleagues. All countries agreed that a national IAS (NISSAP) technical advisory group is necessary to oversee IAS and biosecurity activities and outputs including those related to this project. The effectiveness of the NISSAP Technical Advisory Group will be maximised with its membership comprising all the relevant government agencies and NGO's (including community groups). The NISSAP TAG would monitor and evaluate progress implementing the national project and guide any changes that may be required as the project is implemented. The NISSAP TAGs in the four participating countries should act as role models for others in the region – something which will be facilitated via the PILN, SPREP Environment Forum, SPC country support network etc. The example set of how these NISSAP TAGs work will also include demonstrating how they are supported by the PRISMSS – see below.

*Output 1.1.2 Expert input towards strengthened IAS legislation, regulations and policies in place in four countries*

152. During the PPG country consultation, it was revealed that the participating countries had recently passed modern Biosecurity Statutes (included in the lists in Section 2.4, Country Context, paragraphs 67-70) and that the remaining issues revolved around their implementation and integration into the various sectors where IAS and biosecurity are important (consistent with IAS being recognised as a cross-cutting theme by the CBD COP). In the Terms of Reference of the NISSAP TAGs, it is expected that they will (i) include an advocacy role ensuring that environmental/biodiversity values/interests are included in policies, regulations and practices that flow out of the Biosecurity (IAS) statutes (harmonising outputs from allied statutes – see lists of potentially relevant statutes in Section 2.4) and (ii) participate in ongoing review of IAS and biosecurity related legislation and associated regulations to ensure they are implemented to maximum effect. The following areas will be reviewed – IAS control and eradication, biosecurity, sanitary and phyto sanitary standards for imported products and biological material, protocols for agri-chemical use, bio-control agents, cross-sectoral EDRR plans. The PRISMSS will support these functions with on-call advice and the training courses provided for under Component 4 will directly or indirectly also support.

*Output 1.1.3 One NISSAP written for Tuvalu; three NISSAPs reviewed and up-dated for the other countries*

153. The PPG country consultation process determined that in Tonga, Niue and RMI NISSAP's were still current but had not received the benefits of continual evaluation and change which result from regular use and referral from a National NISSAP TAG. Hence it is expected that one of the first tasks of the NISSAP TAGs will be to review the NISSAP and recommend any improvements, interim before a full rewrite which is expected before their expiry. Tuvalu does not have a current NISSAP (albeit, like the other countries, they are aware of their purpose and value) and one of the first tasks will be to consult stakeholders (including communities and NGO's), draft a plan and ensure its adoption. This process will be supported by advice from the PRISMSS.

*Output 1.1.4 Administrative systems and processes to implement NISSAPs are in place allowing their efficient implementation in all participating countries*

154. The NISSAPs' structure is the same as detailed in the "Guidelines" which in turn is structured the same way for the current project. Hence the implementation of this project and its activities/outputs will reinstate or restart the NISSAP activities in-country and go a long way to implementing the countries' NISSAPs – again with the technical support from the PRISMSS. Implementing the project will ensure structured, systematic (including monitored and evaluated) implementation of country NISSAPs with the highest standards of technical support provided by the PRISMSS. Implementation of the NISSAPs will in turn contribute significantly to operationalising country NBSAP's – especially since IAS are the principle threat to BD conservation in the insular Pacific (leaving aside Papua New Guinea and the Solomon Islands where arguably habitat destruction is still the primary cause of BD loss). Hence this Output is focussed on establishing the NISSAP systems and processes, including the TAG and its roles and responsibilities with participating Government agencies, to enable the country programmes to be implemented.

155. The country NISSAP TAGs will assume the role of the country project management group. The NISSAP TAG will include the National Project Coordinator whose position is supported by the project. In a small island developing state rolling together these functions is most logical because of the scarcity of resources, people and physical reality of working in the Pacific SIDS. The broad membership of the NISSAP TAGs from all stakeholder groups – government and non-government – should facilitate optimum cooperation and maximum outputs. Country National Project Coordinators represent their countries on the Project Steering Committee (see Section 4 below).

*Output 1.1.5 Field based operational implementation teams are trained in best practice and standard operational procedures and mobilised in four countries*

156. In each country a team of mainly Government employees will, along with the NPC (some paid for by the project, some co-financed), implement the work programme. Government staff has been committed to the project during the course of the PPG country negotiations (see Appendix 2 for details of costed in-kind support from participating Governments) and will be included in the implementation of the project activities and outputs. In this way it is expected that the business of implementing the current and future iterations of country NISSAPs will be mainstreamed into core Government business (as has already begun in Tonga, Niue and RMI from the previous related GEF PAS Pacific IAS project) and secure sustainability of IAS and biosecurity activities. The national work programmes and training workshop schedules have been planned so that the latter are completed in time to provide NPC's and their colleagues the skills required to run their country projects including on-the-job consolidation of the training with the country visits of PRISMSS colleagues. As described in

Appendices 4 and 6, standard operating procedures for specific activities (e.g. agri-chemical storage, handling, application etc.) and management of specific species or groups of species (e.g. rats, weeds) will be further developed and made available online and, where necessary, hard copy for all technical / operational aspects of IAS/biosecurity management and other technical outputs. Development of further resources in this way will add to the existing Battler Series of publications, 10 which are currently available in print form and online via the Battler Resource Base through the SPREP website.. Training will also be provided on how to access and use these technical records. Standard operating procedures will cover subject areas that have application across all the countries involved and will enable further country customization based on national circumstances.

157. It is expected that trainees attending the regional skills workshops described above and in Appendices 4 and 6 will consolidate their own training and expand the national knowledge base by training others in the national project implementation teams. This dual approach to raising the national skill set of a given country will assist mainstreaming IAS and biosecurity management into core Government business.

158. Training topics will be delivered in a one or two “block course” style courses where topics will be delivered as integrated modules. These will be followed by in-country visits by specialists to consolidate their training and customise it to the countries’ particular needs. This will include detailed planning and mobilising required resources. The extended periods of training will also allow country participants to build collegial relationships with each other and the PRISMSS and PMU colleagues which should strengthen the efficiency and effectiveness of the project in the ensuing years of the project and help bridge the geographic gaps which are a challenge running multi-country projects in the Pacific.

## ***Component 2: Establishing national systems for prioritizing IAS management***

*Outcome 2.1 Enhanced IAS surveillance and control strategies reduce introduction rates and contain populations below thresholds that endanger threatened and endemic species and their habitats in 4 countries:*

159. This component will develop national systems for containing the threat posed by IAS and substandard biosecurity systems by providing methodology and technical knowledge to put in place national systems and processes that will maximise the chances of interception of new IAS, containing existing IAS and planning for minimising their impacts. The following Outputs will be delivered to achieve this outcome:

2.1.1 Baseline studies of the distribution and status of invasive species, and programme for detecting change, completed in four countries

2.1.2 Effective protocols for assessing risk and prioritising IAS for management developed and implemented in four countries

2.1.3 Species and site-specific management plans, aligned with the Pacific Biocontrol Strategy as appropriate, developed for priority IAS and priority areas for all four countries

*Output 2.1.1 Baseline studies of the distribution and status of invasive species, and programme for detecting change, completed in four countries*

160. Some baseline studies have been done (see Section 2 and Appendix 4 for details). Most have not been compiled (e.g. map / Geo-referenced), assessed (e.g. for comprehensiveness, meeting accepted

technical standards etc.), analysed and recommendations made for actions such as further surveys to complete the baseline knowledge, surveillance, EDRR or mitigation plans. Existing information may need to be formatted to international standards such as the Darwin standard and for inclusion into GBIF and could be housed centrally at SPREP (facilitated by the PRISMSS) – possibly on the GEF 5 Regional State of Environment project managed databases (yet to be determined).

161. Some “high profile/risk” species will be targeted in the process of carrying out further survey / assessment including Yellow Crazy Ant. At least two countries are involved – Niue and Tuvalu where YCA is known but delimitation survey work is still required – as well as containment management. Another specific target IAS identified during the country consultation process is the red-vented bulbul in RMI. Others have been identified (see Appendices 4 and 6) and more may be during delimitation surveys for known IAS and further opportunities for low-cost/effort species-led

162. Based on the findings of the above, further surveys in key areas (such as in Tuvalu’s port area) and in identified conservation areas (e.g. Huvalu Forest, Niue) will be conducted to complete the baseline knowledge base for the countries (marine and terrestrial). After the information baseline is complete recommendations for ongoing surveillance to detect change will be possible and information can be supplied to the Biosecurity pathway / risk analyses. These monitoring activities will also be included into any evaluation plans of sub-projects that are required for the current multi-country project and future activities involving IAS/ biosecurity.

163. An exceptional case is the possible eradication of rodents and cats from Niue which would be the first country in the world to eradicate these two IAS predators nationally. As part of the feasibility and operational planning, survey work will be necessary to confirm the rodent species and possibly distribution of cats albeit the assumption would have to be they are both cosmopolitan for eradication purposes. However, relative densities might vary considerably.

*Output 2.1.2 Effective protocols for assessing risk and prioritising IAS for management developed and implemented in four countries*

164. Information derived from existing and new activities described in 2.1.1 will be used to generate risk profiles such as from the main ports, airports, import practices, inter-island movements of people and materials etc. From the risk profiles protocols will be developed for all countries to minimise these risks and inform which EDRR protocols are required (which species/threats).

165. An economic assessment of the impacts of IAS (marine and terrestrial) will be carried out for Tuvalu – incorporating as many lessons learnt as possible from similar studies elsewhere in the region (e.g. Fiji Islands). The results of this study will help inform the development of the Tuvalu NISSAP, identifying priorities, and act as a model for other tiny SIDS, especially other atolls (e.g. RMI).

*2.1.3 Species and site specific management plans, aligned with the Pacific Biocontrol Strategy as appropriate, developed for priority IAS and priority areas for all four countries*

166. The results of the above activities will also inform planning and priority-setting under the IAS control programme. Islands which are candidates for rodent eradication will also be identified on the basis of surveys (and concomitant feasibility and operational plans) carried out under this output. IAS control and / or eradication plans will also be incorporated into site-based or species-based projects, including restoration sites where activities such as re-planting, re-introductions, etc. are planned (e.g. Toloa Rain Forest, Tonga).



### ***Component 3: Implementing programmes for IAS risk reduction, Early Detection and Rapid Response (EDRR), eradication, control and restoration***

#### ***Outcome 3.1 Biosecurity risks are reduced for the highest risk pathways and IAS***

167. This outcome follows a logical spectrum of activities and outputs related to IAS and biosecurity. It recognises the importance of doing everything possible to stop IAS entering a country in the first place, and, if they do arrive within a country avoiding it becoming established. In IAS parlance this group of actions is termed “prevention” and is the motivating reason for including up-grading the countries’ biosecurity in the project. While prevention is the optimum, this does not always happen, and IAS do get across borders and early detection is crucial to enable removing IAS before they get established and threaten natural or agricultural assets or human health. Coupled with early detection the project provides for developing the appropriate rapid response protocols, with the training and equipment necessary to deal with the incursion (risk analysis from previous Components provide information on the most likely species to target). Finally, responses to established IAS are included – management (control) or eradication, again with appropriate training and material provisioning covered by the project. The same government and non-government agencies and people will be involved so there is a feedback loop from control/eradication activities motivating prevention.

#### ***Output 3.1.1 Priority risk mitigation measures are identified and necessary actions taken to reduce or eliminate risks of IAS entry in the four countries.***

168. Following formal assessments, recommended improvements will be systematically compiled for statutes, policy, regulations and quarantine practices at the national border and inter-island borders. Countries are at different stages in the legislative process with Tonga and RMI finalising their Biosecurity Bills and Niue and Tuvalu with completed Biosecurity Statutes. Interventions will be made advising improvements to statutes and regulations as required.

169. At the operational level improved protocols and practices for national border and inter-island quarantine will be identified and required training to improve standards will be provided. Protocols and practices will be aligned with EDRR for identified priority risk species. It is expected that the NISSAP TAGs will advocate for the continual upgrade of national systems and processes – informed by the activities motivated by this project.

#### ***Output 3.1.2 EDRR protocols operational in four participating countries***

170. This output will ensure that there are operational EDRR systems in place for each country – designed and aligned with the previously completed risk / vector / pathway analyses from the other activities and ensuring that environmental values are incorporated. As for other technical outputs, related training and ongoing advice will be available to officials of participating countries and from other PICTs. Most countries in the region do not have the specialist equipment on hand to deal with an incursion. The four participating countries will be equipped with the necessary equipment required for their needs (as assessed by the risk profiling process described above). Training for its use will be given including in-country simulation exercises. Post-exercise assessments will be done to identify where improvements are needed in protocols and procedure. Special care will be taken to ensure that specific sectors are alerted to / trained to identify potential pest species which are new incursions. For example, some weeds and ants have currently restricted distributions (such as Yellow Crazy Ants on Funafuti, Tuvalu) and are most likely to be detected by women or young people working horticultural plots. These sectors need to know what actions to take to trigger an EDRR response. Hence during vector/pathway analyses, care will be taken to identify which sectors are most likely to encounter new

incursions and ensure they are included in training. Relevant data on the aforesaid will be systematically kept including gender disaggregated data to ensure equity for training.

171. EDRR protocols, methods and practices are continually evolving, in part due to the changing number of IAS. Regular up-grades (including reviewing pathway analyses) will be facilitated through the PRISMSS which will troll its network from around the region and the world to make sure the best possible knowledge is brought to bear at country level.

172. Tuvalu and RMI only stated during the PPG process that they are employing extension officers – approximately one per atoll/island who will support this project. NPCs will organise any local training and equipment to improve their skills with EDRR (as well as inter-island biosecurity and monitoring for new incursions). It is expected that these officers would be included in any simulation exercises run in-country.

### *Output 3.2 Impacts of priority IAS (identified in component 2) reduced*

173. Having identified which established IAS pose the greatest threat to biodiversity and other assets (possibly including threatening human welfare – such as some species of ants), mitigation steps are undertaken under this sub-component. These include control programmes (for weed species using herbicides and existing bio-control options) and eradication (weed species and rodents) – the latter often coupled with restoration projects and securing biodiversity assets. All operational activities involved will adhere to modern industry standards of best practice which will be included into relevant training programmes run by the PRISMSS. Ongoing support, again via the PRISMSS, will ensure best practices and effective operations are run. It is anticipated that activities run under this sub-component will generate a lot of material for outreach – local and regional -- and form the basis of much sharing of knowledge between countries and regionally.

#### *Output 3.2.1 At least two sustainable IAS control programmes are established in each of at least three participating countries*

174. Following the country consultations, it appears all four countries should be able to establish at least two sustainable IAS control programmes. Again, the selection of the species to be controlled and how will follow a process where species are rank-ordered according to the amount of impact they are having on biodiversity and other assets, feasibility, cost etc. Wherever possible the targeted species control will yield as many inclusive benefits as possible including contributing to restoration programmes, agriculture (removing or reducing pest species), reducing threats to biodiversity with large or cosmopolitan distributions. As with other technical activities, all four NPCs at least will be trained in, for example, weed control and agri-chemical use, prior to the operations starting in-country so that as much on-the-job benefit can be obtained and allow consolidation of lessons learnt. One of the inclusive benefits should also be NPC's training local colleagues such as the extension officers who will be engaged in project work in RMI and Tuvalu. Priority high risk-low distribution of invasive alien plants will be managed by operational teams using well established systems designed to exhaust seedbanks and thereby eradicate pest species.

175. Specifically, activities focused on the management of weeds are planned for the 4 countries. Tonga, RMI and Niue have existing National Invasive Species Strategy and Action Plans (NISSAP) that identify and classify weed species. The development of a NISSAP for Tuvalu is one of the project activities that is planned for very early in the life of the project.

176. Within a NISSAP, weed species with problematic ecological impact are classified on the basis of their distribution. Problematic species with limited distribution are considered possible to eradicate and

are therefore classified, in terms of the project, as “Priority Weeds”. Problematic species with widespread distribution are considered for management by the introduction of biological controls. “Priority Weed” activities and “Biocontrol” activities are planned for each of the 4 countries.

177. Priority Weed activities focus on the delivery of a comprehensive eradication programme. It includes recruitment, training, planning, mapping, procurement of tools and resources, management and application of herbicides, data management, follow up control and monitoring. Established systems for the management of spatial data allow for data recording, data aggregation, data analysis and update of information provided to the field teams. Comprehensive training for the delivery of Priority Weed activities will commence early in the life of the project. It will be delivered by SPREP and cover all aspects to build capacity for delivering and sustaining these activities. Works may continue beyond the life of the project depending on the seedbank viability of the target species.

178. Various biological control agents for many of the widespread weed species, which are currently causing problems in the 4 countries, are already available. The marginal cost of specific testing for existing biocontrols for release in Pacific islands is relatively low compared with the cost of developing completely novel agents. LandCare Research - Manaaki Whenua in New Zealand is the PRISMSS partner with a specialised capability in this field. Activities include in-country consultations, training, testing, transportation, release, monitoring and reporting. Established systems for the management of data will allow for data recording, data aggregation, data analysis and update of information provided to the monitoring and management teams. Comprehensive training for the delivery of biocontrol activities will commence early in the life of the project. It will be delivered by PRISMSS partner Landcare Research (NZ) Manaaki Whenua and cover all aspects to build capacity for delivering and sustaining these activities. These works should continue beyond the life of the project.

179. The project includes activities focused on the ecological restoration of specific sites. These are referred as “Restoration” activities. The activities typically include the management of weeds and invasive animals to protect the ecological values of a specific site. Activities may include planting of indigenous species to fill the ecological niche exposed by weed control or to improve diversity. Planting may also be done to ‘armour’ the edge of a forested area or for erosion control. Planting involves sourcing the propagules locally and consideration of provenance of indigenous species. It also involves skilful planning, operational delivery and maintenance to ensure that the desired outcomes are achieved. Established systems for the management of spatial data allow for data recording, data aggregation, data analysis and update of information provided to the field teams. Comprehensive training for the delivery of Restoration activities will commence early in the life of the project. It will be delivered by SPREP and cover all aspects to build capacity for delivering and sustaining these activities. Works focused on maintaining these areas should continue beyond the life of the project.

180. Project activities in the thematic areas of National and Inter Island Biosecurity and Early Detection and Rapid Response all have a focus on building capacity for the prevention of the spread of weeds.

181. Bio-control options are available for some of the widespread pest weed species in the four countries. A preliminary analysis of biological control options was carried out during the PPG process and a good number of pest weed species could be controlled using natural enemies which have already been researched in terms of their efficacy, host specificity and harmlessness to non-target species (which is the most expensive aspect of identifying bio-control agents). A comprehensive analysis of bio-control options for countries will be completed early on in the project with the help of PRISMSS

partners (e.g. Landcare New Zealand Ltd). Plans for introducing bio-control agents will then be made and be done alongside a related training workshop – a process led by the PRISMSS.

182. Monitoring and evaluation programmes (site and species based) will be designed and run throughout the project and the results analysed and assessed on an ongoing basis to guide forward planning/actions. Methods and process will be included in relevant gender-responsive training on weed control methods and eradication (currently planned to be focused on rodents) as part of the assessments of efficacy and determining when desired levels of control have been met or eradications successful. As with the control programmes, the activity of M&E for IAS interventions will be made part of the core business of government.

183. Consultations revealed that the coverage of the marine survey was patchy (e.g. some marine biodiversity surveys in Tuvalu completed but none had covered the port area, Niue's marine biodiversity surveys had excluded marine IAS). Additional marine survey results should signal which IAS are present and warrant management responses if any. Generally, management intervention for Marine IAS is expensive and technically difficult and will require specialised advice. Only manageable/affordable marine IAS will be considered for control.

184. During the PPG process some existing IAS threats were identified which had already received management including Singapore daisy (Niue), yellow crazy ants (Niue and Tuvalu) and feral pigs in Niue. The latter was part of the GEF PAS project and will be continued in this project cementing this work into core Department of Environment activities long-term and benefitting from the lessons learnt from the GEF PAS project. The existing YCA projects (Tuvalu, Niue) had stalled and required further delimitation surveys and control regimes to be redesigned – aimed at containment to reduced areas which will minimise the chances of them spreading. Again, a PRISMSS partner (Pacific Biosecurity) will be supporting this activity.

*Output 3.2.2 Successful eradications of priority species are completed on islands or island groups in at least two countries*

185. Eradication projects were discussed with all four countries with the expectation that the current project will deliver on island-based eradication in three countries (Tonga, RMI and Tuvalu). These eradication projects include small islands/islets in Tonga's Vava'u archipelago; RMI's Majuro, Lib, Mejit and Mili Conservation Area atolls; and islets in Tuvalu's Funafuti Atoll. The eradications in RMI will secure the survival of at least two endemic species – Ratak Imperial Pigeon and an endemic skink, whilst all other eradications will support sustaining endangered species in the target countries. Eradication practice will use protocols published in the Battler Series ([www.sprep.org](http://www.sprep.org)) including the use of traps and anticoagulant rodent toxins.

**Table 21: Eradication of IAS from islands/islets planned for current projects.**

| COUNTRY | LOCATION   | AREA<br>(hectares) | TARGET<br>SPECIES                                   | ECOLOGICAL<br>BENEFITS   | METHOD   |
|---------|--|--------------------|---|--|--|
| RMI     | Majuro atoll;<br>Bokanbotin islet  | 30                 | Rodents and cats                                    | Green turtle ( <i>Chelonia mydas</i> ), hawksbill turtle ( <i>Eretmochelys imbricata</i> ), Ratak Imperial Pigeon ( <i>Ducula pacifica ratakensis</i> ); Arno skink ( <i>Emoia arnoensis</i> ), Majuro longhorn beetle ( <i>Cerasium robustum</i> ); Coastal and marine ecosystems | Utilising regional peer reviewed and published protocols “Removing rodents from small tropical islands with success” and “Use anticoagulant rodent bait safely”.<br><br>Trained, guided and assisted by the PRISMSS.<br><br>Both guidelines are available online via the Battler Resource Base <a href="https://piln.sprep.org/">https://piln.sprep.org/</a> |
|         | Majuro atoll;<br>Denneo islet  | 6                  |   |  |  |
|         | Majuro atoll;<br>Bikirin islet   | 3.5                |   |  |  |
|         | Majuro atoll;<br>Eneko islet   | 12                 |   |  |  |
|         | Mili atoll;<br>Nanlu associated islets   | 30                 |   |  |  |
|         | Majuro Island  | 1                  | Giant African land snail ( <i>Achitina fulica</i> ) | Coastal and marine ecosystems  | Manual removal and ground baiting of one delimited site of arrival.  |
| Tonga   | Vavaú islands;<br>Late island  | 1,731              | Rodents   | Friendly-ground dove ( <i>Gallicolumba stairi</i> ), Tongan whistler ( <i>Pachycephala jacquiniti</i> )<br><br>Potential site of relocation for the Tongan megapode ( <i>Megapodius pritchardii</i> ) and other Tongan biodiversity.<br><br>Coastal and marine ecosystems.         | Execution of the Operational Plan for the eradication of Pacific rats from Late Island, Island Conservation (2014).<br><br>Delivery of grain-based bait into all potential rodent territories.<br><br>This document is available online via the Battler Resource Base <a href="https://piln.sprep.org/">https://piln.sprep.org/</a>                          |
|         | Other priority islands within the Vavaú, Ha’apai and Tongatapu island groups. Out of the 169 islands in Tonga a shortlist will be prioritised on ecological value during component two of the project. | 80                 |   | Green turtle ( <i>Chelonia mydas</i> ), hawksbill turtle ( <i>Eretmochelys imbricata</i> ).<br><br>Coastal and marine ecosystems.<br><br>Many species of seabirds, forest birds.<br><br>Coastal and marine ecosystems  | Utilising regional peer reviewed and published protocols “Removing rodents from small tropical islands with success” and “Use anticoagulant rodent bait safely”.<br><br>Trained, guided and assisted by the PRISMSS.<br><br>Both guidelines are available online via the Battler Resource Base <a href="https://piln.sprep.org/">https://piln.sprep.org/</a> |

| COUNTRY  | LOCATION              | AREA<br>(hectares) | TARGET<br>SPECIES | ECOLOGICAL<br>BENEFITS  | METHOD   |
|--|-----------------------|--------------------|-------------------|---|--|
| <b>Tuvalu<br/>(Funafuti<br/>Conservation<br/>Area)</b> | Tepuka vilivili islet | 8                  | Rodents and cats  | Seabirds to maintain function of coastal and marine ecosystem: brown noddy ( <i>Anous stolidus</i> ), black noddy ( <i>Anous minuta</i> ), reef heron ( <i>Egretta sacra</i> ), white tern ( <i>Gygis alba</i> ); Migratory birds; brown booby ( <i>Sula leucogaster</i> ), greater frigate bird ( <i>Fregata minor</i> ), and Pacific golden plover ( <i>Pluvialis dominica</i> ). Coconut crab ( <i>Birgus latro</i> ). Potentially allow the re-introduction of the Pacific pigeon ( <i>Ducula pacifica</i> ). Coastal and marine ecosystems | Utilising regional peer reviewed and published protocols “Removing rodents from small tropical islands with success” and “Use anticoagulant rodent bait safely”.<br><br>Trained, guided and assisted by the PRISMSS.<br><br>Both guidelines are available online via the Battler Resource Base <a href="https://piln.sprep.org/">https://piln.sprep.org/</a> |
|  | Fualopa islet         |                    |                   |   |  |
|  | Vasafua islet         |                    |                   |   |  |
|  | Fuagea islet          |                    |                   |   |  |
|  | Telfala islet         |                    |                   |   |  |

**Table 22: IUCN Red List Classification\***

| COMMON NAME                   | SCIENTIFIC NAME                   | IUCN RED LIST CLASSIFICATION          | ADDITIONAL INFORMATION                    |
|-------------------------------|-----------------------------------|---------------------------------------|---|
| <b>Green turtle</b>           | <i>Chelonia mydas</i>             | Endangered A2bd                       | Full Migrant                              |
| <b>Hawksbill turtle</b>       | <i>Eretmochelys imbricata</i>     | Critically Endangered A2bd            | Full Migrant                              |
| <b>Ratak Imperial Pigeon</b>  | <i>Ducula pacifica ratakensis</i> | Not Evaluated                         | Endemic and in low numbers                |
| <b>Arno skink</b>             | <i>Emoia arnoensis</i>            | Least Concern                         | Known from FSM, RMI and Nauru only        |
| <b>Majuro longhorn beetle</b> | <i>Cerasium robustum</i>          | Not Evaluated                         | Endemic                                   |
| <b>Friendly-ground dove</b>   | <i>Gallicolumba stairi</i>        | Vulnerable C2a(i)                     | Continuing decline                        |
| <b>Tongan whistler</b>        | <i>Pachycephala jacquinoti</i>    | Near Threatened B1ab(iii); C2a(i); D2 | Endemic and very range restricted         |
| <b>Tongan megapode</b>        | <i>Megapodius pritchardii</i>     | Endangered B1ab(v)+2ab(v)             | Endemic and very range restricted         |
| <b>Brown noddy</b>            | <i>Anous stolidus</i>             | Least Concern                         | Vulnerable to impacts of invasive species |

|                              |                           |                |   |
|------------------------------|---------------------------|----------------|---|
| <b>Black noddy</b>           | <i>Anous minutus</i>      | Least Concern  | Vulnerable to impacts of invasive species                           |
| <b>Reef heron</b>            | <i>Egretta sacra</i>      | Least Concern  | Full Migrant  |
| <b>White tern</b>            | <i>Gygis alba</i>         | Least Concern  | Vulnerable to impacts of invasive species                           |
| <b>Brown booby</b>           | <i>Sula leucogaster</i>   | Least Concern  | Decreasing population.<br>Vulnerable to impacts of invasive species |
| <b>Greater frigate bird</b>  | <i>Fregata minor</i>      | Least Concern  | Decreasing population   |
| <b>Pacific golden plover</b> | <i>Pluvialis dominica</i> | Least Concern  | Vulnerable to climate change and severe weather                     |
| <b>Coconut crab</b>          | <i>Birgus latro</i>       | Data deficient | Vulnerable to impacts of invasive species                           |

\* [www.iucnredlist.org](http://www.iucnredlist.org).

186. One “special case” eradication project was also identified during country consultation involves the removal of rodents from Late Island in Tonga (2,000ha). This case is exceptional because of the size and complexity of the eradication operation. Late Island has already had its feasibility study and operational plan written so will be targeted for eradication and will exemplify the role of one of the key partners (Island Conservation) participating in the PRISMSS who is co-funding the project and will provide the technical expertise to carry out the eradication. The feasibility and operational plans describe details on how the eradication will be carried out. Essentially an aerial operation (helicopter) will distribute a pollard bait which includes an anti-coagulant. Accepted methods will ensure minimum impact on non-target species. Species which will benefit include green sea turtle, all Columbidae avifauna and the Tongan whistler and megapode as a translocation destination for future threatened species recovery. Training for local staff via a PRISMSS organised training workshop and on-the-ground experience will also be available to local staff. Both these projects are ground breaking. Late will be the largest tropical island rodent eradication ever attempted so the project reporting/analysis will have value to other regions.

187. Another special case will involve designing the eradication (feasibility and operational plans) of cats and rats from Niue. This project has already attracted interest from the Government of Niue in using these outputs to drive a larger separately funded project. This eradication project would benefit the entire terrestrial native fauna of Niue (birds, bats, invertebrates and plants) and will be the first time in the world that invasive mammals have been eradicated from an entire country.

188. Particular attention will be paid to undertaking outreach activities arising from the eradications within countries and regionally capitalising on their often more spectacular activities (such as using helicopters) and thus using them as “flagship” activities/projects to promote the BD Conservation aspects of the project. A specific focus will be given to raise awareness of indigenous women and youth groups. Outreach will be facilitated nationally and regionally via the PRISMSS and its partners’ networks (e.g. SPREP – Pacific region-wide). Outreach will extend further than just the Pacific. The UN Environment will facilitate outreach such as exchanges of lessons learnt for example between this project and its GEF 6 “Preventing costs of IAS in Barbados and the OECS” project (GEF ID 9408) for which it is also the IA).

*Output 3.2.3 At least two sites demonstrate measurable restoration outputs as described in restoration plans*

189. The PPG consultations signalled that the project should achieve more than what was stated in the PIF with restoration projects identified in all the participating countries. Restoration includes managing invasive alien species to protect a site with identified high biodiversity assets so that its ecological integrity is restored. Restoration often includes planting natives to return the site to its presumed original physical characteristics. It may also include the re-introduction of species which may be rare or have become extinct at the site. It should be noted that in this output and others it is fully expected that, with the participation of other PICTs, inclusive benefits will accrue to other restoration (and other allied projects) outside of the project specifications. The restoration projects identified during country consultation have been described in Appendix 4 and include: Tonga – Toloa Reserve, Mt Talau (Vava'u), Eua National Park; Niue – Huvalu Forest, village based reserves yet to be determined; RMI – islets in the Majuro Atoll; (Bokanbotin, 30 hectares; Denneo, 6 hectares; Bikirin, 3.5 hectares; Eneko, 12 hectares) Islets complex (coupled with the Ratak Imperial Pigeon recovery), Mili atoll (Nanlu islet) other atolls already mentioned; Tuvalu – Funafuti Atoll islets.

190. Most of the restoration work will entail IAS eradication or control (see Appendix 4). Further restoration actions may be added depending on IAS eradication/control success and the practical options available. These could include replanting (e.g. Tonga – a Government owned native plant nursery already exists which is prepared to contribute) and/or translocation of threatened species such as Tongan whistler or megapode (providing all usual protocols can be followed and expertise is available). Restoration activities will be designed to ensure full participation of women and youth. For example, this has already been signalled in Niue during village PPG consultation where village-based restoration programmes (mainly involving weed control) will heavily rely on women and youth groups.

191. The aforementioned (and see Appendix 4 and table below) restoration projects will be the subject of a PRISMSS coordinated workshop which will be timed to prepare NPCs for their local restoration projects. This training will prepare NPCs for planning, implementation, monitoring and evaluation of the project including gathering gender disaggregated data. As before, many restoration projects will entail as their main activity an eradication and/or control operation of an IAS and obviously couple this with training and activities. Hence an integrated approach between IAS control, eradication and restoration will be targeted at every opportunity.

192. Restoration projects planned for completion during the current project are described in Table 23.

**Table 233: Restoration projects planned for completion during the current project**

| COUNTRY | LOCATION                 | AREA (hectares) | TARGET SPECIES                                       | ECOLOGICAL BENEFITS   | METHOD   |
|---------|--------------------------|-----------------|--|---|--|
| Niue    | Huvalu Conservation Area | 100             | Rats, cats, pigs, yellow crazy ants, invasive plants | Whole native forest ecosystem.<br>Near locally extinct parrot species blue crowned lorikeet ( <i>Vini australis</i> ).* | Government assisted community managed maintenance of reduced rat and cat populations and priority invasive plants.<br>Pigs and yellow crazy ants controlled by government. |
| Tonga   | Toloa Rainforest         | 23              | Rats, invasive plants, cats                          | Last remnant of native forest ecosystem on Tongatapu.   | Government assisted school community managed maintenance of reduced rat  |



|            |                   |    |                                   |   |   |
|------------|-------------------|----|-----------------------------------|---|---|
|            |                   |    |                                   |   | and cat populations and priority invasive plants.   |
|            | Mount Talau       | 7  | Rats, Invasive plants, pigs, cats | Tongan whistler ( <i>Pachycephala jacquinoti</i> ), the tree <i>Casearia buelowii</i> which is endemic to Mount Talau.  | VEPA assisted community managed maintenance of reduced rat and cat populations and priority invasive plants.<br>Pig exclusion methods trialled.                                 |
|            | Eua National Park | 10 | Rats, invasive plants, cats       | Native tree species.<br><br>Seabirds using the forest for breeding and returning nutrient – Grey Noddies ( <i>Procelsterna albivitta</i> ), brown noddies, brown boobies, white terns, white-tailed tropic birds ( <i>Phaethon lepturus</i> ).<br>Terrestrial species requiring forest habitat including – red shining parrot ( <i>Prosopeia tabuensis</i> ), pacific pigeon ( <i>D. pacifica</i> ), crimson crowned dove ( <i>Ptilinopus porphyraceus</i> ), Polynesian triller ( <i>Lelage maculosa</i> ), wattled honeyeater ( <i>Foulehalo carunculata</i> ), Polynesian starling ( <i>Aplonis tabuensis</i> ), white collared king fisher ( <i>Todirhamphus chloris</i> ). | Government assisted community managed maintenance of reduced rat and cat populations and priority invasive plants.  |
| <b>RMI</b> | Marjuro Atoll     | 12 | Rodents and cats                  | Breeding seabirds, endemic terrestrial fauna including imperial pigeon.   | Community based biosecurity maintaining a barrier preventing reinvasion after the eradication programme and undertaking restoration activities such as re-planting natives etc. |

#### **Component 4: Establishing a Pacific Islands regional support framework for IAS management**

*Outcome: 4.1 Sustainable support service comprised of Council of Regional Organisations in the Pacific (CROP) agencies and partners established and enabling four countries to respond to existing and potential IAS threats, and is up-scalable to at least the Pacific region*

193. This component and its outcome establishes the PRISMSS which will provide a mentoring role to National Project Coordinators and a comprehensive technical support service directly supporting the national projects by providing the necessary training, follow-up customisation in-country of work programmes (e.g. weed management) and ongoing support as the national projects are rolled out. At

the outset of the project there are five business partners in the PRISMSS (SPREP, SPC, Island Conservation, Landcare Research New Zealand Ltd and Pacific Biosecurity) and it is anticipated that more will join as proof of concept succeeds over the implementation of the project. Significant in-kind support is also provided by the countries themselves and some by UN Environment. The five PRISMSS partners form an integral part of the national work programmes. The PRISMSS will provide the mentoring, training, project coordination, PILN and ongoing technical support service to the PNC's and their teams. Other PICTs are expected to take advantage of the PRISMSS (this has already been signalled during the PPG process) on a "pay as you go" or "user pays" basis and it is this model that is expected to provide the long term financial sustainability of the PRISMSS after the closure of this project.

*Output 4.1.1 Support Service supporting the three other components for the four countries and the region, including providing advice on NISSAP development and implementation as required, is operationalized*

194. To date the role of providing technical support has been met to a limited (and varying) extent by the SPREP and SPC plus partners since the late 1990's. During the PPG country consultations, all countries endorsed the PRISMSS concept as they had done during the PIF process. In the first phase of the project the PRISMSS staff will be appointed and its function operationalized, as mandated by the countries, within SPREP (supported by the partners – SPC, IC, Landcare Research New Zealand Ltd and Pacific Biosecurity). Institutionalising the PRISMSS within SPREP, supported by its partners (which have also endorsed this model), will help ensure the long-term function of the PRISMSS. It will bring together all the benefits and services from the partners and of the PILN system with opportunities to share lessons learnt from the four participating countries plus other PICTs. Hence the PRISMSS activities (particularly the workshops) will be run by the PRISMSS/SPREP and act as part of an extension service available to all other Pacific countries and territories (noting that all the French Territories are involved in other overlapping IAS/ biosecurity projects with SPREP as the EA and they will be able to benefit as well). While the practical support will be limited to the four participating countries and other PICTs attending workshops (albeit their workshop attendance costs are self-funded), all technical materials will be available on line via the Battler Series resource base on the SPREP server.

195. At country level, the PRISMSS will support the appointments of NPCs who in turn will support the establishment (if not already done) of the countries' NISSAP TAG which will act as the local country project overseeing body and technical advisors. Given the project is aligned with implementing the country NISSAPs – this arrangement will see the efficient creation (in the case of Tuvalu), review and implementation of the NISSAPs and contributing to the implementation of the NBSAPs.

196. The topics of the training workshops to be provided by the PRISMSS have been carefully chosen to provide from first principles (or as top up for some with existing skills) the necessary knowledge to understand the elements and plan their national work programme. These will be timed to precede related activities in-country so that skills may be consolidated on the job. This will be facilitated with follow up in-country visits by PRISMSS technical experts to assist in any logistical customisation of the work plan and provide the skills to implement the field work for a given country. The PRISMSS partners will also support the implementation of the activities in-country lending technical support and mentoring the NPCs – modelling a practice which is expected to continue long term after the end of the project. Topics for training workshops include – Inter-island biosecurity and EDRR, monitoring of baselines and changes, Biological control of weeds, weed management and agri-chemical use, eradication strategy, feasibility and planning, and restoration of priority ecological sites.

It is anticipated that these workshops will be held together in a block course format which will include project management and planning of their country programme. Other subject areas such as awareness raising and outreach (including gender and youth sectors) and sustainable financing mechanisms will be coupled up with PILN meetings. Synchronising activities like this will provide opportunities for country project staff to share experiences and lessons learnt.

197. As part of its in-kind support to the project the UN Environment will be organising an exchange system of technical information and knowledge between countries outside of the Pacific where it also is the Implementing Agency. These include the Caribbean, Malawi and possibly some Asian countries including Indonesia, Vietnam and Cambodia. Details of how this is to be done will be developed as the project is implemented in the Pacific. The primary responsibility for organizing this exchange service will be the UN Environment sub-regional office for the Asia Pacific Region in Apia, Samoa (co-located with SPREP).

*Output 4.1.2 Sustainable financing mechanisms in place to support the establishment of a long-term Regional Support Service and national IAS management programs*

198. Systematic research into sustainable financing mechanisms will be carried out for each country and reported. Discussions during the PPG process agreed that mainstreaming activities into core Government work programmes would occur as well as the positions funded by the project – actually co-funded with the Government agencies. By incorporating the country projects with their NISSAP process/implementation (and by extension the NBSAP implementation), this will optimise the chances of ensuring ongoing commitment by the Government. Hence this is considered one approach to ensuring sustained IAS/ biosecurity activities in-country. In a similar vein, the inclusion of communities in the activities of each participating country will ensure ongoing commitment to IAS/ biosecurity work past the term of the project as the activities align progressively with their restoration priorities. The recommendations of the country-based studies into sustainability will be implemented as far as possible before the end of the current project.

199. Options for sustainable funding in-country which will be investigated will include – schools or villages adopting natural areas for continuing IAS management as part of their education programme and local NGO's taking over continuing management of IAS. Other options which will be investigated could include border cost recovery including: port inspection services for imported goods, materials and passengers, sterilisation and decontamination services, importing clearance duties, tariffs, regulations and protocols to fund biosecurity, poaching and biosecurity hazard law enforcement penalties to foreign vessel owners, penalties for regulation violations including poaching (e.g. fishing vessels in marine protected areas), green fees charged to the tourist sector to fund biosecurity and IAS control and eradication in support of biodiversity conservation using lessons learnt from Palau, Cook Islands, etc.

200. Post border cost recovery could include: pest and invasive alien species control advice charges to the agricultural and horticultural sectors including registration and inspection fees, risk assessments, infringements on regulations relating to biosecurity, importing etc., Eradication and emergency response (identification, delineation surveys, containment, etc.) fees for new incursions, fees on disposal of vector material (e.g. contaminated soil). The research will also assess the possibility of directing monies collected from fines imposed for IAS-related infractions into the national funds for IAS prevention. In addition, the feasibility of more general taxes, fees or levies to pay for IAS prevention, based on the volume or risk level of imported goods, will be investigated. Once completed, the research results will be presented to national partners to discuss the feasibility of the proposed financing mechanisms and to initiate on-going dialogue on funding and cooperation for IAS

management aimed at implementing the studies' recommendations. It is anticipated that the results of the study (plus evidence from others already done for sub-sets of the region) will make an economic case for IAS control, eradication, prevention and biosecurity (as has been elsewhere in the world) which will be used to advocate and justify funding IAS/biosecurity by Governments and regional organisations. By establishing/implementing funding mechanisms for IAS management based on systems of fees and/or fines for IAS-related infractions, the project will, through the implementation of results of the study, facilitate increased and sustainable funding levels for IAS management among Pacific region countries, while also incentivizing, based on the results of the study, public and private actors to shift towards low-risk practices and to substitute the use of exotics for native species. As part of the feasibility study, the risk of disincentivizing reporting as a result of imposing fees and/or fines for IAS-related infractions will be examined and cost-benefit analysis undertaken.

201. In addition, the project will build the economic or business case for increased funding for IAS management by governments and other partners, based on the results of the study. Building on preliminary studies carried out in the region on the economic impacts of IAS on livelihoods, production sectors, human health, ecosystem services, etc., the project will undertake more detailed analyses with expanded information and scope (including marine IAS) to help countries understand the true impacts/costs of IAS. Furthermore, utilizing the proven costs of effective IAS management demonstrated at national levels under Component 3 and at the regional level by the PRISMSS, the project will test the viability of creating cost coefficients for different IAS management strategies (prevention, EDRR, control, eradication, etc.) under varying conditions (i.e. depending on species type, ecosystems, local pressures etc.), with a focus on IAS that impact biodiversity, which will allow countries to compare the costs of different IAS management approaches and to see how efficiently they mitigate IAS costs/impacts. In addition to providing important guidance for future policies and priority setting on IAS management, this information will be used to make the case to governments to invest more in IAS management activities and to solicit increased funding from regional and international donors. Again the PRISMSS will provide support.

202. The PRISMSS will build on the existing core-budgeted IAS/ biosecurity related positions and activities already established in SPREP (and project partner SPC) responsible for the execution of this project. The project should validate existing (and expanded future) work and mandate and expand funding for these and allied positions, activities and *modus operandi* from the donors that already support the agencies (e.g. Australia and New Zealand). This project will demonstrate to these donors proof-of-concept of the regional support model and further secure their support.

203. Another study will be conducted to determine options for sustaining the PRISMSS. Currently it has been assumed to be a "user pays" system. However, alternative models will be considered including hybrids with user pays business models. The user pays model has already won support from participating countries and the same is expected from territories involved in currently funded or hard pipelined IAS projects (e.g. EDF 11 regional territory IAS/ biosecurity project). Services provided by the PRISMSS are heavily discounted because of the input from the partners (the number expected to increase over time) provided as in-kind and co-finance. Their support will be formalised and is intended to extend long past the term of the project. It is expected that following the project the PRISMSS will be the preferred model for technical support in most of the Pacific.

204. Implementing the current project will demonstrate the operational success of the PRISMSS (advisory and organizational role, training, co-opting partner support etc.) with a focus on the four participating countries. This will demonstrate the cost-efficiency of carrying out IAS and biosecurity work in country with PRISMSS support and the value in paying for such a service in future (after the term of the current project). While the project is being rolled out parties to other IAS and biosecurity

projects from around the Pacific will also participate in the training and advisory service on a pay-as-you-go basis. This has already been discussed and ensured since SPREP is also the equivalent of the EA for these projects. The exact revenue from this practice cannot be calculated yet but records will be kept so that a business model for the PRISMSS's long term financial viability can be designed by the end of the current project. As stated, it is expected that current bilateral funding arrangements with SPREP with a track record of prioritizing IAS and biosecurity will continue to invest including such positions as the Invasive Species Advisor thus effectively contributing to financing the PRISMSS.

205. Further IAS/ biosecurity projects are planned for funding applications and these are expected to also use the PRISMSS, contributing to its funding – again long past the completion of the current project. The *modus operandi* of the PRISMSS has already been endorsed in principle by the SPREP Meeting and further developments establishing its long-term operation will be approved by it (noting the SPREP Meeting includes all 14 Pacific countries, seven territories and five metropolitan countries – USA, Australia, New Zealand, France and Great Britain).

*Output 4.1.3 Capacity developed in countries to systematically measure the success of IAS management objectives as described in national, regional and international instruments*

206. A pilot database to record and measure progress of countries and the region as a whole on the management of invasive species was developed with raw indicators during the GEFPAS IAS project. This will be developed further by the PRISMSS and migrated to an online format. The indicators and data summaries will inform national planning and provide countries with raw and summarised data for reporting for instruments such as NBSAP's. Regional agencies such as SPREP and SPC will also be able to compile data from across the region to create pictures of the state of IAS and biosecurity in the Pacific and report this to fora such as the SPREP Environment Forum, CBD Sec/COP etc. Training for using the database will be provided during the various workshops.

*Output 4.1.4 Regionally capable information system in place delivering case studies, guidelines, standard operating procedures and tools generated by components one to three*

207. The GEF PAS IAS project established the basis for an electronic repository of technical information on invasive alien species ([www.sprep.org](http://www.sprep.org) / resources) which features the "Battler Series" which are a series of technical "how to" documents on various aspects of IAS/ biosecurity management. This resource base will be extended during the life of the project to service the information needs and disseminate the outputs of the country project teams. Training workshops will include the use of this Resource Base and it will be populated with all course materials, case-studies, guides and output documents so these are available to all PICTs and others from outside the Pacific. Some hard copy will be also produced to maximise utility and distribution.

*Output 4.1.5 Based on project outputs, new version of the "Guidelines "for Invasive Species Management in the Pacific (Guidelines) is produced and formally approved*

208. The publication "Guidelines for Invasive Species Management in the Pacific" has been endorsed by the SPREP Meeting as a base document for designing projects and activities tackling IAS and biosecurity in the Pacific. The GEF PAS IAS project was designed around the Guidelines as has the current project. Since the publication of the Guidelines in 2009 many lessons have been learnt, some of which can be imparted via case studies and further are expected during the current project. With this in mind a new revised version of the Guidelines will be produced, and these will be presented to the SPREP Meeting and launched during a SPREP Environment Forum or similar after further country

endorsement is received. Any new iterations of the Guidelines will include designing IAS/ biosecurity activities, outputs and projects incorporating gender equity and minority group rights principles.

### *3.4 Intervention Logic and Key Assumptions*

209. The logic for intervention for this project revolves around implementing the Guidelines which has successfully driven the design and roll out of the GEF PAS IAS project in 9 Pacific countries. The Terminal Evaluation of that project spoke of the success of the model for dealing with IAS and Biosecurity in a region like the Pacific which is characterized by SIDS scattered over a vast area, extreme vulnerability to IAS and limited resources to combat IAS and retain high biosecurity standards. During the GEF PAS IAS project a model of providing a centralized IAS / biosecurity support service based in SPREP was tested and found extremely effective and popular. This project will take advantage of the lessons learnt (well reported in the TE of the GEF PAS IAS project – see summary in Appendix 21 ) and cement in a centralized Pacific IAS/ biosecurity support service (the PRISMSS) with strong initial partners (Island Conservation, Pacific Biosecurity, Landcare Research NZ, SPC and SPREP) expert in essential technical components of IAS/ biosecurity operations including eradication of vertebrate species, bio-control of weeds, management of weeds, agri-chemical use etc. Loss of biodiversity as a result of IAS could generate significant economic issues for the Pacific region. Global examples indicate that willingness to pay estimates for policies to protect important biodiversity from IAS is substantial.<sup>6</sup> The project will be able to take full advantage of the partners’ professional/technical networks and Intellectual Property won from their past experience and current portfolio of related projects. It is expected that when the PRISMSS and its partnership is seen to perform and deliver on the project outputs, other agencies will join the partnership.

210. The concept of the PRISMSS and the structure of the operational aspects of the project have attracted political support. The Guidelines and the project concept have both been endorsed by consensus by the SPREP Meeting which represents all Pacific Island Countries and Territories and the five main metropolitan countries with interests in the Pacific (USA, Australia, New Zealand, France and the United Kingdom). In effect this project is delivering on the latest of these endorsements when in the 2014 SPREP Meeting the countries directed the SPREP to design a project using the concept which is the basis of this project. In this resolution the countries recognized and endorsed the need to avoid a duplicative approach to IAS and biosecurity management in the region and the PRISMSS concept. It is expected that bilateral support for the project from at least one of the metropolitan countries, New Zealand, will be forthcoming and this is currently being developed. New Zealand (and to a lesser extent Australia) have had a long history of supporting IAS/biosecurity in the Pacific (e.g. New Zealand has funded for years a permanent position in the SPREP an “advisor” IAS – a senior position) and so it is expected that this political/practical support from key stakeholders in the Pacific region will continue.

211. With the recent completion of the GEF PAS IAS project and its tangible successes at local/country level, this project is taking advantage of culture and pride of achieving successes with respect to IAS and biosecurity and this is reflected in three of the four participating countries having also been in the GEF PAS project. Building on this recent history of participating in the GEF PAS project, this next iteration will consolidate local skills and continue building a tradition of tackling IAS/ biosecurity in-country and taking pride in developing these skills locally. This tradition / pride has been evident in the out-reach material generated in recent years and the growing popularity of overcoming IAS/ biosecurity challenges (for example, see [Battler Resource Base](#)). Building this

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<sup>6</sup> E.g. In Seychelles, tourists indicated a mean WTP of US\$52–US\$58 on top of their usual expenditures to fund conservation policy (Source: <https://doi.org/10.1016/j.ecolecon.2010.08.006>)

tradition of tackling IAS will continue the awareness and desire to mainstream IAS / biosecurity management into core Government business. Local practitioners also know they are supported “externally” via the PRISMSS and the PILN (another successful model from the past which this project will capitalize on) which has organized meetings regularly during which skills/lessons learnt sharing will be available as well as training. They are also confident of the clear benefits from increased IAS management/eradication and biosecurity to biodiversity conservation, community well-being (e.g. health) and economic benefits (e.g. Conservation International 2012).

212. Discussions of the risks which could present themselves were taken into account during the PPG phase by ensuring that the key stakeholders were consulted. Stakeholders have been incorporated into implementing activities under the project in a collaborative manner. Thus the key stakeholders should be aware of the project prior to its implementation and participate in its execution. The submission of co-finance letters is an indication of this commitment both at the regional (partners) and national levels. Key assumptions for the project are:

- a. Partners in the PRISMSS honour the intent and purpose of the MOU’s which commit them as service providers (Table 9, risk 3)
- b. Countries and Territories which are not one of the four participating countries take advantage of the PRISMSS set up by the current project including training opportunities (Table 9, risk 8)
- c. Co-financing commitments from participating countries Governments, especially for significant outputs, are forthcoming (Table 9, risk 3)
- d. Countries adopt the necessary attitude to IAS/ biosecurity to motivate them mainstreaming these activities into their core business (Table 9, risk 2)
- e. Country NISSAP TAGs are effective in terms of oversight of country projects and advocating for IAS/ biosecurity in-country thus contributing to the sustainability of IAS/ biosecurity management and activities (Table 9, risk 7)
- f. Other projects with an IAS/ biosecurity agenda in the Pacific are willing and able to take advantage of the PRISMSS and thus generate further income and sustainability for it (Table 9, risk 8)
- g. A lot of the success of the project is predicated on the timely, sequential delivery of training and follow-up plus specialized interventions such as introducing bio-control agents. In the Pacific many activities can be compromised by extreme weather events such as cyclones or even tsunamis. Much of the design/planning for the project assumes that these events will not disrupt the delivery of the project outputs (Table 9 risk 1).

### *3.5 Risk analysis and risk management measures*

213. Risk analysis and risk management measures are summarized in the table below:

**Table 244: Project risk analysis and mitigation measures**

| <b>PROJECT RISKS</b>  |                 |   |   |  |
|---|-----------------|---|---|--|
| <b>DESCRIPTION</b>  | <b>TYPE</b>     | <b>IMPACT (I)<br/>PROBABILITY<br/>(P)<br/>1(low) to 5(high)</b> | <b>MITIGATION<br/>MEASURES</b>  | <b>OWNER</b><br>(who has been<br>appointed to keep an<br>eye on this risk) |
| <b>Extreme weather events may severely disrupt operational plans and hence project delivery</b>   | Operational     | P=3<br>I=4 (at local level)                                     | Early warning systems, contingency planning, PRISMSS support to change plans to accommodate new circumstances.  | Project management including the EA and National Project Coordinators      |
| <b>Changes in internal conditions such as movement of staff; shifting national local implementing partner to another Ministry. Movement of staff due to promotions etc. may lead to the delays in some components.</b>  | Operational     | P=2<br>I=3  | Institute a project communication strategy that allows for documentation and systematic filing system of all decisions and actions taken to permit quick resumption of activities by any new staff.<br><br>SPREP's Project Management Information System will be available to track changes.  | Project management (national and regional/SPREP).                          |
| <b>Unsustainable Financing (non-materialization of co-finance because project partners or Governments do not honour MOU's and/or insufficient project funds due to unexpected changes in economies, availability of external technical support professionals)</b> | Operational     | P=3<br>I=3  | Secure co-financing commitment prior to the project. Actively follow up during the project to ensure pledged commitments are realized. Increase the frequency of co-financing reporting from all partners. Ensure all co-finance from partners is captured in their MOU's with SPREP. Undertake annual budget revisions to ensure funds are allocated for key project activities based on the current situation at that time. | PMU (SPREP)  |
| <b>Climate change related habitat shifts and destruction create conditions for spread of Invasive Species</b>   | Environmental   | P=1<br>I=2  | Increased study and surveillance of invasions, data collection and develop management plans to address problems. The project itself will respond to this risk through its activities.   | Project management (national and regional).                                |
| <b>Limited buy in from national community</b>   | Socio-political | P=2<br>I=3  | To mitigate this risk, the project will take advantage of its communication strategy which targets key stakeholders and will use the right media to reach them. The project will work   | National project management  |



|  |                 |                |  |   |
|--|-----------------|----------------|--|---|
|  |                 |                | closely with local partners and Governmental institutions will be participating in the roll out of the project and therefore will feel ownership and thus less likely to withhold support.   |   |
| <b>Changing government priorities through change in governments or ministers in charge</b>   | Political       | P=2<br>I=3     | Keep the GEF and other national focal points informed at all stages; keep regional bodies and fora updated on project.   | Project management (national and regional). |
| <b>NISSAP TAG effectiveness – TAG's are empowered to act effectively in their role implementing the national projects</b>  | Socio-political | P = 2<br>I = 4 | PRISMSS will facilitate and advocate for the TAG's, providing a brokerage service for any issues. Communicate optimal <i>modus operandi</i> from other countries. Advocate any TAG success nationally and regionally.  | PMU and GEF operational focal points        |
| <b>Lack of regional Buy-in – countries and territories apart from the four participating countries do not take advantage of the PRISMSS, training courses etc.</b> | Socio-political | P=2<br>I=3     | To mitigate this risk, the project will take advantage of its communication strategy which targets key stakeholders and will use the right media to reach them. In addition, the project will not be working in isolation; it will work closely with regional partners and institutions to secure their support.<br><br>Key partners will also be invited to project meetings. | Regional project management                 |

### 3.6 Consistency with national priorities or plans (participating countries)

214. The project specifically supports the NISSAP process for each country – reviewing existing ones (Tonga, Niue and RMI) and writing the first NISSAP for Tuvalu. Further, it goes a long way to implementing them and sets up a national infrastructure to do so with the NISSAP TAGs effectively supervising the national projects. The NISSAP TAGs membership will include Government agency employees and should help secure NISSAP activities as part of its core business.

215. In the participating countries IAS are the key threat to their Biodiversity (at least terrestrial BD) so implementing the national projects will go a long way to mitigating this threat and implementing respective NBSAP's, NISSAP's which align with countries' commitments under the CBD and other MEAs. All countries have various national plans associated with protected areas and Government agencies responsible for environmental management. Given the cross-cutting nature of IAS and biosecurity – the project will provide extensive benefits to allied activities throughout all participating countries.

216. The project will assist implementing countries in the achievement of Aichi targets 1, 5, 7, 9, 11-15, 19 and 20. It will contribute to countries meeting their obligations under the Ballast Water Management Convention International Convention of the Control of Harmful Anti-fouling Systems on Ships, Guidelines for the Control and Management of Ship Bio-fouling, and the Regional framework for managing ship sourced marine pollution (including IAS); it will also help countries to implement the SRIMP-PAC (Shipping related invasive marine pests in the Pacific), and obligations under the Pacific Oceans Pollution Prevention Programme (PACPOL), including baseline surveys of their ports, economic impact assessments, risk assessments, strategy and actions defined within NISSAP, and the review and update of legislation. The project will support national progress towards paragraph 95 of the S.A.M.O.A. Pathway (UN SIDS Conference 2014), which calls for “support for the efforts of small island developing States: a) to enhance multisectoral collaboration at the national, regional and international levels, including through expanded support to existing structures, to effectively address invasive alien species; b) to improve efforts to eradicate and control invasive alien species, including through the provision of support for research on and the development of new technologies by expanding collaboration and supporting existing regional and international structures; and c) to develop and strengthen their capacity to address invasive alien species issues, including prevention, as well as increasing public awareness in small island developing States about this issue. The project will also contribute to paragraphs 76 and 77 on gender as per UN SIDS Conference (2014). In addition, the project supports national priorities and plans, and commitments under international conventions, relevant to invasive alien species as described in the table below.

**Table 25: Project consistency with relevant strategies, plans, reports and conventions**

| RELEVANT STRATEGIES/<br>PLANS / REPORTS AND<br>CONVENTIONS       | PROJECT CONSISTENCY   |
|--|---|
| <b>Convention on Biological Diversity</b>                        | The project design supports objectives under each country’s NBSAP, NISSAP, and NCSA, as well as Aichi Targets 1, 5, 7, 9, 11, 15, 19 and 20, and the Global Invasive Alien Species Partnership (GIASP)                                |
| <b>Guidelines for Invasive Species Management in the Pacific</b> | Project design is highly integrated with the “Guidelines”, which all four participating countries endorsed when they were finalized in 2008 and have adopted as the organizing framework for their efforts related to IAS management. |
| <b>Regional Biosecurity Plan for Micronesia and Hawaii</b>       | Project activities to improve risk assessment and EDRR will support biosecurity objectives and therefore the goals of this regional plan, to which both FSM and RMI are signatories   |
| <b>Cartagena Protocol on Biosafety</b>                           | Project will assist countries in making their National Communications required for the Cartagena Protocol and National Capacity Self Assessments.   |
| <b>Sustainable development goals</b>                             | Supports Goals 14 and 15 – respectively “Life below water” and “Life on land”. Goal 15 specifically mentions IAS and its threat to endangered wildlife.   |

### *3.7 Incremental cost reasoning*

#### **Baseline Scenario (without GEF support)**

217. In the absence of this GEF intervention the effort put into IAS/Biosecurity by Tonga, Niue and RMI would plateau or decline and certainly would not increase to mitigate their risk, be coordinated nor benefit from the technical support of a regional support service. In Tuvalu work towards mitigating

IAS or improving biosecurity would be virtually absent despite the new Biosecurity Bill which provides an excellent statutory basis for IAS/ biosecurity work.

218. In country there would not be a focused NISSAP TAG responsible for IAS/ biosecurity activity coordination/advocacy were it not for an IAS/ biosecurity project to motivate such a body. While a tradition of dealing with IAS and biosecurity is developing in at least Tonga and Niue – it is not yet there in RMI or Tuvalu – and in all four countries needs to be cemented into core Government business which will take a successful track record such as has occurred with the GEF PAS IAS project. This process will not happen without the motivation of a national project supported by an “external” regional support service.

219. Since the completion of the GEF PAS IAS project the SPREP has continued to support all Pacific countries when asked and it has motivated further funding outside of the GEF for Territories. However, without a further significant injection of resources and accompanying roles and responsibilities providing a regional support service, SPREP and its partners (SPC, IC, Pacific Biosecurity, Landcare NZ Ltd) would not be able to coordinate / collaborate to the same extent and effectiveness. Similarly, it would not provide the same impetus for maintaining the PILN or its meetings and the mutual support service between country-based practitioners.

220. The GEF PAS IAS project demonstrated how a regional support mechanism could work with external partners (relative to the Pacific) and, given that it is in its infancy, it would not consolidate into a coordinated entity secured by MOU’s all of which a large-scale project would provide. The partners which have historically been collaborating with the SPREP would not be able to continue to do so for long without an MOU based partnership agreement and without their support their Intellectual Capacity/Knowledge and co-finance would not materialize.

221. As in other SIDS regions (e.g. Caribbean) the rate of new incursions has been increasing – particularly with some high-risk taxa such as tramp ant species (e.g. Yellow Crazy Ant, “fire ants” etc.). EDRR systems and processes need developing in countries to meet these threats and without a concerted and informed effort these are unlikely to happen.

222. Opportunities to eradicate rodents from small islands (and some individual large examples like the 2000ha Late Island in Tonga), will not be taken without bringing to bear the specialized knowledge agencies like IC possess. This could only be done in a collective manner so as to create economies of scale under a multi-country, multi-partner project. Without taking this opportunity some key threatened species such as Ratak Imperial Pigeon in Majuro Atoll, RMI would go extinct since rodent predation is the remaining pressure driving them to extinction. Associated with the eradication and control programmes are restoration projects which have been started (e.g. Tonga – Toloa Forest and Mt Talau) but need continuing to meet long-term BD conservation objectives.

### **Alternative Scenario (with the GEF support)**

223. In the alternative scenario, this project will build on and add value to the significant investments already made in IAS management in the region (see Tables 1 and 2 below) by: assisting countries in the region to create and/or strengthen IAS policies, regulations and planning frameworks; increasing information on IAS and using that information to assess risks and identify priority IAS management interventions (including prevention measures); strengthening biosecurity and EDRR protocols and systems; expanding small island programs for IAS control, eradication and restoration and developing cost-effective demonstrations for replication and up-scaling; and establishing for the first time in the Pacific inter-agency regional mechanisms for technical and financial support and collaboration that are critically important to addressing IAS in small island developing countries.

224. The project will provide models for IAS legislation, capacity building, baseline studies, developing NISSAPs, identification, prioritization and mitigation of high risk pathways, eradication to protect globally significant species and ecosystems, inclusive management of IAS in protected areas (terrestrial and marine), integrated pest management including the use of biocontrol agents, and restoration techniques. These activities will respond to a critical need in the region, also by considering marginalized groups in indigenous communities such as women and youth and empowering them with knowledge, capacity development, and participation in IAS programme design and implementation. To date, IAS programs in the region have primarily consisted of one-off projects that have not been effectively integrated into the programs of relevant Government agencies or structured so as to empower them to undertake responsibility for IAS management over the long term. By providing technical and financial support to Pacific island countries through a coordinated regional mechanism (Component 4), the project will facilitate continuity between on-the-ground level projects and government (and non-governmental) programs so that the latter can follow through and retain the benefits of initial interventions, and can focus their funds and energies on local projects rather than on expensive and time consuming technical capacities and programs that are difficult to sustain in SIDS where countries are widely dispersed. Improved prevention, early detection, control and management of IAS in the Pacific will support the conservation of globally significant biodiversity and ecosystem services, while also benefitting agricultural production, food security and overall economic performance, thereby helping to alleviating poverty and improve the well-being of women.

225. The project will build on the gains made from existing initiatives for IAS management and biosecurity in the region and coordinate with them. Members of the Pacific Invasives Partnership (PIP) have signalled their intention to support this project during implementation. Members of the PIP, such as Island Conservation, will contribute expertise in areas such as capacity development and eradication/control operations – often in tandem. Other members of the PIP are also well placed to contribute to policy and regulation development related to same-state inter-island biosecurity (recalling that three of the participating countries include complex archipelagos and inter-island biosecurity is a serious problem). The project will advance the existing NISSAP processes which are underway already in Tonga, Niue and RMI (their NISSAPs are Government endorsed) and strengthen their cross-sectoral IAS task-forces. Thus, the project is capitalising on significant recent investment in these countries' NISSAP processes. Tuvalu is the only country in the region without a NISSAP and will receive support completing its NISSAP. Work already underway by the project's regional partner agency, SPC, will also contribute to the project including – SPC's training programme for border biosecurity and quarantine officers and integrating IAS control/management and biosecurity best practices into mixed agricultural and natural environment scenarios.

226. In Tonga the project is leveraging or making use of significant past investment (originating from the GEF PAS IAS project). Tonga has two sustainable community-led restoration projects underway involving IAS control and eradication which benefit the Tongan Whistler (*Pachycephala jacquinoti*), a critically endangered bird, and *Casearia buelowii*, a critically endangered tree endemic to Mount Talau. Tonga has also completed rodent eradications on four islands identified as Important Bird Area islands, some of which are important nesting sites for the hawksbill and green turtles. Preparatory work has also been completed for IAS operations on which the current project will capitalise (e.g. an operational plan to restore Late Island). The success of these projects has established networks and increased community awareness and many of the government/non-government agency skills and systems and processes which can now be further mobilised to achieve significantly more towards combatting the threat of IAS.

227. Niue has also set up networks and many of the systems and processes for running an IAS/biosecurity programme based on recent past experience on which the current project will capitalise. For example, Niue has weed control and pig management programmes already underway. As with Tonga, Niue (and to a lesser extent Tuvalu and RMI, due to the fact that they are in the early stages of setting up IAS/Biosecurity national programmes) is able to capitalise on these and other recent past investments in IAS/Biosecurity programmes (e.g. the GEF PAS projects). Future work in Niue will be carried out to build on the existing structures and expertise put into place by these recent projects including management of yellow crazy ants (e.g. on Tokelau Islands funded by Government of New Zealand), terrestrial weed species and marine biosecurity.

228. As already signalled, RMI and Tuvalu are in their relative infancy setting up national IAS/biosecurity programmes, although RMI has some of the necessary national networks, systems and processes underway from the GEF PAS Pacific IAS project. Tuvalu has recently completed a ballast water management plan which is a national priority for this atoll state that is highly dependent on the marine environment and its biodiversity. The current project is designed to build on these early accomplishments and use the lessons learned and capacities developed to date to greatly increase these countries' IAS/biosecurity capabilities.

229. The IAS/Biosecurity service (PRISMSS) component captured by Component 4 of the project will in the same sense as above benefit from about 20 years of institutional experience between SPREP and its partner SPC plus the collective expertise of the Pacific Invasive Learning Network (PILN) which is a peer led network of over 400 practitioners. The PILN will be key to the provision or distribution of services to the wider Pacific (and beyond) (see Component 4 description in Section 3.3). UN Environment also brings to bear considerable experience in IAS management, including two SIDS region and two continental programmes and it will be ensuring lessons learnt from these projects outside the Pacific are regularly traded. SPREP has employed full-time Advisor level staff since 1998 and this position with its various allied employees have managed many projects throughout the region and established a permanent network within and beyond the Pacific which will benefit the proposed project. One such network is the Pacific Invasives Partnership (PIP), which includes members such as USA APHIS, Island Conservation, New Zealand Landcare (a New Zealand Crown-owned Research Institute which is a leader in science and technology associated with IAS/biosecurity), University of Auckland New Zealand (a recognised leader in theoretical and practical research into IAS control and eradication best practices), SPREP, SPC, Pacific Invasives Initiative (which includes IUCN's Invasive Species Specialist Group). In summary, the current project and particularly Component 4 will in effect provide the focal point to bring to bear these allied corporate support agencies – galvanized under the present project.

### **Global environmental benefits**

230. The project's various rodent eradication, IAS management and restoration sub-projects will benefit the following globally significant species – mainly by removing predation from rodents:

- a. Tonga – friendly ground dove (*Alopecoenas stairi*) (IUCN Red List Vu), Late Island; Tongan whistler (*Pachycephala jacquiloti*) (IUCN Red List NT), Mt Talau Vava'u
- b. Niue – the blue-crowned lorikeet *Vini australis* (IUCN Red List Least Concern, Birdlife International “restricted range”) – possibly a sub-species and therefore deserving of a different conservation categorization and probably declining due to rat predation
- c. Republic of Marshall Islands – Boettger's Emo skink (*Emoia boettgeri*) (IUCN Red List En), Arno and Maruro Atolls; saw-tailed gecko (*Perochirus ateles*) (IUCN Red list En), Marshall Islands

- d. Green sea turtle (*Chelonia mydas*) (IUCN En) – all four project countries
- e. Hawks bill sea turtle (*Eretmochelys imbricate*) (IUCN Cr) – all four countries
- f. Vu – vulnerable; NT – near threatened; En – endangered; Cr – critically endangered

231. Some of the islands which will receive rodent eradications are nursery islands for Green and Hawksbill turtles, so these Endangered and Critically Endangered species will benefit. Similarly, breeding seabirds will also benefit by the removal of the primary form of predation on these species. While none of the seabird species which will benefit are IUCN Red List listed, they are all in decline, and so their conservation status will improve as a result of the interventions from this project. At least two endangered lizard species will also benefit as will other native herpetofauna which, again while not IUCN Red List listed, are also in decline and so will benefit. For most of the islands receiving eradication the primary pressure preventing their return to a near pristine state (and hence their value on a global scale) is the presence of rodents and this project will remove rodents from many islands (see Appendices 4 and 6).

232. The pressure from global warming and acidification on coral reefs has been well documented and need not be repeated here. However, marine IAS may also pose an additional threat which may be compounded with the effects of climate change. Much of the remaining intact coral reef ecosystems occur in the Pacific – some included in the countries party to this project. The current project will contribute to the biosecurity of coral reef ecosystems in the region by helping to mitigate an added pressure on them in addition to climate change – marine IAS.

233. Two sub-projects/activities in this project will provide proof-of-concept of world firsts for eradication – the largest tropical island rodent eradication (Late Island, Tonga, 2,000ha) and a feasibility / operational plan for the eradication of cats and rats from Niue (the first country to rid itself of cats and rats) – 261 sq km and probably the largest island ever to have cats and rats removed. These activities will lead the way for the rest of the world conservation community in developing the technical capability to achieve these milestones. The project is also set up to readily share the lessons learnt from these activities.

### 3.8 Sustainability

#### *Financing and long-term sustainability*

234. Sustainability has been extensively discussed with countries and partners during the PPG process. As has been described earlier in this document, the PRISMSS (refer to Component 4) will work on a model of recovering some costs from parties that take advantage of its services. This will apply to the four countries participating in this project who will use their country project funds to pay, and other PICTs who are expected to use the PRISMSS (e.g. Palau and Cook Islands have already signalled their intentions to use the service). At least two further IAS projects (involving the Pacific French Territories) are pipe-lined for which SPREP is the Executing Agency and these will use and pay for the PRISMSS (e.g. training courses) with the same arrangement. SPC also has projects hard-pipelined and participating countries in these projects are also expected to use the PRISMSS in the same way (“pay-as-you-use”) with SPC advocating its use as these projects roll out. By the time five years of the current project has been completed the above model will be firmly established and accepted in the region thus ensuring sustainability beyond the life of the project.

235. The PRISMSS has been designed to include initially four partners who are providing significant support to the project (financial and in-kind) and it is expected that a two-way process will become established by the time the project is completed whereby a significant part of these partner agencies’

Pacific programme will be rolled out via the PRISMSS and involving countries throughout the region. This model will enable the region to procure IAS/ biosecurity support services from the PRISMSS at a rate subsidised by the PRISMSS partners. Ideally the projects will be jointly planned and executed. Again, it will be seen as a successful model which will attract further projects (via the partners and elsewhere) and this should also help secure the sustainability of the PRISMSS. Already two major allied projects which are “hard pipelined” by independent funding sources will be using the PRISMSS in a modality yet to be specifically determined but in principle as described above. Similarly, it is expected the allied GEF funded IAS/ biosecurity targeted projects running concurrently elsewhere in the region (e.g. Fiji, FSM) will take advantage of the PRISMSS and others which have significant IAS/ biosecurity components (e.g. Ridge to Reef projects, GEF 6 BD projects such as Solomon Islands etc.). The PRISMSS will be made available through regional networks already mentioned such as the PIP and PILN which includes all IAS/ biosecurity agencies and countries in the Pacific region. The PILN has been available to all PICTs as will the PRISMSS which means GEF ineligible countries will be able to benefit from them. This benefit of “economy of scale” will result in increased revenue for the PRISMSS and paying participants in the PILN which should in turn help secure the financial viability of both, not to mention technical benefits such as sharing experience between PICTs projects etc.

236. In addition to the fee-for-services, PRISMSS will build on the existing core-budgeted IAS/ biosecurity related positions and activities already established in SPREP (and project partner SPC) responsible for the execution of this project. The project should validate existing (and expanded future) work and mandate and expand funding for these and allied positions, activities and *modus operandi* from the donors that already support the agencies (e.g. Australia and New Zealand). This project will demonstrate to these donors proof-of-concept of the regional support model and further secure their support.

237. In addition, a study will be conducted to determine options for sustaining the PRISMSS beyond the term of the project. Alternative models to the “user pays” system will be considered including hybrids with user pays business models. Services provided by the PRISMSS are heavily discounted because of the input from the partners (the number expected to increase over time) provided as in-kind and co-finance. Their support will be formalised and is intended to extend long past the term of the project. It is expected that following the project the PRISMSS will be the preferred model for technical support in most of the Pacific.

238. Furthermore, it is expected that the PRISMSS will be sustained beyond the term of the project by institutionalising the PRISMSS Associate position in SPREP with the financial support of committed and new partners engaged during project execution. The PRISMSS partners have indicated their intention to fund the PRISMSS Associate position after the completion of the project. The PRISMSS will initially focus on the common thematic areas within the four countries and which have been identified through gap analysis during project preparation consultations. As further technical capacity and resources are acquired with new partners within the PRISMSS, the requirements of support for the Project Manager and Project Coordinator will correspondingly decrease, and the PRISMSS will become more independent, versatile and sustainable.

239. At country level the activities and outputs of the current project will be seen to be completely focussed on implementing the countries’ NISSAP and in turn the NBSAP (also assisting it being able to report on the same with tangible results). This coupled up with ensuring that the project and NISSAP align with core Government business plans (already ensured during the PPG phase) including using core staff (negotiated co-finance/in-kind support), should ensure that IAS/ biosecurity activities and outputs become ongoing core business of the Government agencies (and to some extent NGO’s – such as Tonga’s Vava’u Environment Protection Association [VEPA]). Mainstreaming of activities

into core Government work programmes by incorporating the country projects with their NISSAP process/implementation (and by extension the NBSAP implementation) will improve the chances of ensuring long-term commitment by the Governments.

240. The above models for sustainability and funding will be further informed by the study on options for sustainability of the PRISMSS (and *ipso facto* the countries) and so the above models are expected to evolve as the project is implemented. They should be continuously informed by the reporting / monitoring and evaluation process which is a necessary part of the project implementation. Sustainability models will continuously be worked on by the PMU as well as attracting further projects which will support sustainability as described above. It is expected that as the working models are rolled out and assessed (continuously), support from the countries (Government, private sector, villages) will inevitably increase as the reputation of the project builds and as more evidence on the negative values of IAS will be generated. This has already been the case in the participating countries from the GEF PAS IAS project and indeed is much of the reason for these countries wishing to participate in the current project.

241. Specifically, options for sustainable funding in-country that will be explored as part of the project implementation include:

- a. Adoption of natural areas by businesses, churches, schools and villages for continuing IAS management for promotional purposes or as part of their educational programmes;
- b. Local NGOs taking over the management of IAS;
- c. Border cost recovery including: (i) port inspection services for imported goods, materials and passengers, (ii) sterilisation and decontamination services, (iii) importing clearance duties, tariffs, regulations and protocols to fund biosecurity, poaching and biosecurity hazard law enforcement penalties to foreign vessel owners, penalties for regulation violations including poaching (e.g. fishing vessels in marine protected areas), (iv) green fees charged to the tourist sector to fund biosecurity/IAS management and eradication and (v) IAS control and eradication in support of biodiversity conservation using lessons learnt from Palau, Cook Islands, etc;
- d. Post border cost recovery including: (i) pest and invasive alien species control advice charges to the agricultural and horticultural sectors including registration and inspection fees, risk assessments, infringements on regulations relating to biosecurity, importing etc., (ii) eradication and emergency response (identification, delineation surveys, containment, etc.) fees for new incursions, (iii) fees on disposal of vector material (e.g. contaminated soil); and
- e. Directing monies collected from fines imposed for IAS-related infractions into the national funds for IAS prevention.

### *Capacity development*

242. Capacity building and awareness creation will also contribute significantly to sustainability. Long term capacity building strategies include: (i) the establishment of the PRISMSS which will provide a mechanism for brokering and arranging for ongoing support from specialist partner organisations to Pacific agencies and countries, (ii) facilitating the appointment of National Invasive Species Coordinators, whose roles and expertise will be retained by the respective Governments after completion of the project, and (iii) building a cadre of trainers, including through training of trainers, that will be provided with the training materials to conduct in-country training in the future.

243. The training materials and activities will also be available online, for example through massive open online courses (MOOC) and learning management systems (LMS), to permit new staff to



familiarize themselves with the concepts such as risk assessments and surveillance for the prevention of new IAS introductions, as well as ongoing reference for existing staff. Distance and self-paced learning opportunities will also be promoted as means to reduce travel costs and provide helpful references for people after training through refresher training.

244. These strategies and approaches will be combined with an appropriate amount of in-person (face-to-face) training activities to address the perennial problem where trained staff are promoted out of their current role or move to the private sector resulting in a constant demand for training.

#### *Behaviour change and communications*

245. Communication and outreach will be essential tools to affect behaviour change and ensure wide public engagement and sustainability of biosecurity efforts.

246. Public outreach through community participation has been negotiated with village community representatives in Niue and a local NGO in Tonga (VEPA) who engage directly relevant village communities in the northern group. In Tuvalu and RMI, direct negotiations with village communities will occur during the preparation of their work programmes. Other opportunities for community engagement leading to behaviour change will be sought during the implementation of the project.

247. By including village communities in the work programmes (i.e. actually doing much of the physical work while directly supported by the relevant Government agencies which are themselves supported by the PMU and PRISMSS), it is expected that this will further establish a pattern of working which has partnerships benefitting everyone in the work programme process with the local communities assuming control and responsibility for their projects. This model should also meet approval with future funding agencies drafting further project proposals.

248. Public outreach and stakeholder communications through the above activities will be monitored throughout the project, including through surveys, and will be adjusted and improved as needed. Their effectiveness and impact on behaviour change will be measured, whenever possible, using established quantitative metrics (see section 3.10 below on “Public awareness, communications and mainstreaming strategy”).

249. The inclusion of communities in the activities of each participating country will ensure ongoing commitment to IAS/ biosecurity work past the term of the project as the activities align progressively with their restoration priorities. The recommendations of the country-based studies into sustainability will be implemented as far as possible before the end of the current project.

#### *Private sector engagement*

250. Private sector engagement will build on existing relationships and be actively sought and developed during the project as opportunities emerge from the ongoing negotiations with existing and potential partners. The activities have been designed to allow for private sector engagement, at the design phase and throughout the implementation of the project. It is expected that private sector engagement will contribute significantly to all project outcomes.

251. Currently private sector activities in the four countries and wider region have some relevance to Biosecurity and the potential introduction of IAS by playing a role in early detection, biosecurity and awareness (e.g. airline industry and commercial importers) and possibly eradication and restoration (e.g. resorts with significant land areas such as owning whole islands). This is representative of an intention to look for win/win scenarios where private sector entities are able to work towards their objectives by helping to advance the project objectives.

252. During the country consultation phase of the PPG, countries signalled their intention to build links with the private sector mainly to support outreach and improve biosecurity. For example, Republic of the Marshall Islands signalled their intention to seek support from the national Chamber of Commerce and target hardware importers for awareness raising; Tuvalu will target obtaining higher biosecurity standards from near monopoly importers of hardware and development materials such as boulders for reclamation sourced from other countries, plus sponsors for particular islands used by tour operators; Niue has already engaged the private sector in the environment sector with sustainable tourism and solid waste management and plans to engage the single airline providing regional air service (Air New Zealand) to advocate biosecurity with its in-flight video and flight magazine, build its existing support from the Hotel and Tourism industry such as the main resort (Matavae Resort); and Tonga will build its existing collaboration with the Private Sector such as the regional airlines (Air Pacific and Air New Zealand). Such partnerships will also support sustainability of results by broadening engagement in IAS management and ensuring awareness across multiple sectors. Further regional partnership with private sector actors, in particular airlines and hotel chains, will be sought during early implementation of the project.

### *3.9 Replication*

253. The participating countries in this project include examples of most of the biogeographical types of islands in the Pacific – atolls, “high islands” (ex-volcanic like parts of Tonga) and up-lifted islands like Niue (ex-volcanic or other plateau sequentially raised/submerged/raised again). The only missing example is a continental island (such as New Caledonia). Hence the lessons learned from implementing this project will have wide application throughout the Pacific.

254. The project also has high potential for scaling up: project benefits will accrue to the entire region via the on-going programs and activities of SPREP, SPC and IC. Other countries in the region will benefit from improved outreach, training and information systems (e.g. Palau and Cook Islands have stated their interest in participating in capacity building workshops run by this project on a “pay as you go” basis). Furthermore, the Pacific Islands region is the only oceanic region to have a comprehensive IAS management framework; by strengthening this framework, the project offers the opportunity to create a model that can be replicated in other SIDS regions (especially the Indian and Caribbean Oceans), as well as for continental countries which have islands within their territories.

255. As project implementing agency, the UN Environment will ensure maximum cross-benefits accrue to related IAS projects it is responsible for outside of the Pacific, and with on-going UN Environment Global programmes such as “UNEP Live” and its collaboration with the World Conservation Monitoring Centre. The project aligns with UN Environment’s current Programme of Work, specifically the Productive Ecosystems Programme which includes increasing cross-boundary cooperation managing marine and terrestrial ecosystems (addressed by Component 4). The indicator for this Programme (EAa - iii: “Increase in the number of countries and groups of countries that improve their cross-sector and transboundary collaboration frameworks for marine and terrestrial ecosystem management” The project intervention is very much in line with the expected results under the above-mentioned indicator, which includes: promotion of South-North collaboration, cross-sectoral development partnerships, and technical support; improvement in the institutional set-up for cross-sector collaboration by a country or groups of countries; agreed spatial and/or management plans; development of scenarios or trade-off analysis; cross-sectoral and formal institutional arrangements (reflected in Component 4 and the PRISMSS).

256. The project will facilitate the development of standard operating procedures (protocols) during control/eradication/restoration projects that will make it easier to manage IAS in a cost-effective

manner over the long-term. The project will establish and support the NISSAP implementation teams during the project, with the expectation that participating governments will sustain these teams post-project (similar to the action taken by most of the governments under the GEF PAS IAS Project to institutionalize and support Invasive Species Coordinators after that project ends).

257. The PRISMSS is expected to work in future in a full partnership model with all the PICTs and with further co-financing/in-kind supporting partners as the model gains popularity and success in delivering. Bi-lateral support from metropolitan countries such as New Zealand is expected to develop (currently under negotiation) – especially those who have significantly supported IAS/ biosecurity in the past (NZ, Australia, USA).

### *3.10 Public awareness, communications and mainstreaming strategy*

258. Under component 4, the proposed project will undertake significant activities towards establishing a regional information management system to deliver case studies, guidelines, standard operating procedures and tools generated under components 1-3, as well as data and other information on priority species and pathways, best practices and lessons learned in IAS management (prevention, EDRR, control, eradication, restoration), etc. This work will build on previous projects from within and outside the Pacific region, using networks and resources provided to the project by the implementing and executing partners, namely UN Environment, SPREP and SPC, as well as information from other partners such as Island Conservation. Care will be taken to avoid duplicating past and present efforts and to enhance existing methods of managing knowledge, using for example existing Clearing House Mechanisms such as the Global Invasive Species Database and the Pacific Invasives Learning Network, as well as alliances such as the Pacific Invasives Partnership.

259. Steps will be taken to ensure networking will include other GEF 6 invasive alien species projects within the region (e.g. Palau/Fiji/FSM UNDP) and outside the region (e.g. Caribbean regional IAS project and Asian forests IAS project). Pacific island countries will also contribute to the regional pool of knowledge. One key mechanism (amongst others) enabling the collation of information will be the regular PILN meetings. The PILN members typically include people from countries' NISSAP implementation teams (which are by definition multi-sectoral). SPREP and SPC will act as “keepers” of compiled regional information storing it on existing institutional databases (available through their institutional websites) which will be used in training and made available to other processes and projects such as the GEF 5 Pacific Cross-Cutting Capacity Development project (GEF ID 5195) plus the wider Pacific via SPC/IPPC focal point and SPREP's regular country networks. Global dissemination will be achieved by the use of global facilities such as “UNEP Live” if feasible. The above actions and approach to knowledge management should ensure its sustainability beyond the life of the current project and into others.

260. All discrete local projects will have a public awareness component which is likely to be part of an ongoing national communication programme which will be careful to capture important sectors such as women and youth. They will advertise and celebrate the projects building awareness, ownership and delivering key messages to the public and politicians. Again, the GEF PAS IAS project has developed a repertoire of techniques of achieving this – videos, local television, school activities, NGO participation etc.

261. This project will attempt to engineer behaviour change by engaging with a diverse range of sectors within society. This includes specific provision for women and youth. The “Guidelines for Invasive Species Management in the Pacific” and the resulting “Scorecard Methodology”, presented in Appendix 19 records “Awareness Resulting in Behaviour Change” as part of a long-term monitoring programme. This will provide the basis for monitoring behaviour change through the project. For

example, in Niue, participation in community activities to manage invasive species will lead to a greater collective knowledge of how invasive species can impact livelihoods and biodiversity. The physical actions of local people managing local issues with the support of national and regional agencies is consistent with the Theory of Change presented in Appendix 18 and can lead to a culture of ownership of issues. Numbers of participants in various activities will provide an indication of the level of awareness and positive behaviours. This information will be collected in a gender disaggregated manner.

262. There will be special case publicity for some of the more singularly large activities / outputs such as the Late Island rodent eradication (Tonga), Niue cat/rat eradication feasibility and operational study, RMI economic impacts study. The results of these and others will be used as “flagship” cases to carry to the public the messages around IAS/ biosecurity and to encourage participation where appropriate. The technique of using flagship case studies for advocating has been well developed by SPREP communications section and elsewhere in the Pacific such as New Zealand and lessons will be drawn from these past experiences.

263. A detailed communications strategy for the project as a whole with an explicit focus on environmental education and awareness raising will be developed at the project’s inception with the assistance of the communications specialist in SPREP. This will ensure leveraging benefits from the communication elements of allied projects for which SPREP is responsible and adding value to country communications and outreach programmes already planned. The communications outreach will also include lessons learned from implementation (including from the GEF PAS IAS project) and will provide a region-wide resources for strengthening IAS management. Outreach will build on the existing largely electronic methods developed during the GEF PAS project and which have continued since its completion. Currently these methods include the Pacific Invasive Species Battler Series and the Pacific Invasives Learning Network plus social media which will be developed further during the project. It is expected that outreach via electronic media will become even more highly refined – a necessity given the vast distribution of Pacific SIDS.

### *3.11 Environmental and Social Safeguards*

264. In accordance with the GEF and UN Environment’s Policies on Environmental and Social Safeguards, safeguard measures have been part of project design and will be incorporated into the project’s implementation process with oversight by the PRISMSS in the first instance and verification by the Task Manager from UN Environment. UN Environment’s Social and Environmental safeguards tool will be used to assess the possible impacts of the project on the participating countries, their communities, and environment. This tool will continue to be used to monitor project activities, in particular if there are changes from the original plan of actions.

265. This project is expected to achieve positive environmental and social impacts by strengthening the policy environment for actions on prevention, early detection and rapid response in controlling and managing IAS. The enhancement of the biosecurity of the sub region can potentially lead to drastic reduction of future invasion of IAS. In this respect no negative impacts are foreseen from project intervention. On the contrary, it will generate both environmental and social benefits. Environmental benefits will include safeguard of local biodiversity by increasing the breeding populations of endemic / native species. Indirectly, if fewer pests and diseases are introduced this will result in lower cost of production through lower usage of pesticides that will have benefits to the environment. While social benefits will include improved agricultural productivities, human health and well-being (e.g. reduced toxic ant invasions), improved biodiversity assets affording more eco-tourism opportunities, cultural identity with preventing the extinction of flagship/iconic species like the Ratak Imperial Pigeon. The

project will be providing a regional support service for IAS management and improving biosecurity so this is the scale of the projects benefits to environment and associated social aspects.

### *3.12 Gender*

266. Information and data relating gender and IAS/ biosecurity are limited in the Pacific. However, the PPG process has taken into consideration gender related issues across the project design. As a starting point, women and men have differentiated roles in various areas such as agriculture, tourism, biodiversity management and preservation, education and within households. As stated in Section 2.3, gender relations play a key role in the access to and use of biological resources, as well as their management within protected areas and in production landscapes. In particular for this project, women's roles in seed selection, seed saving, and the use of wild plants for food and medicines play a major role in biodiversity conservation. The activities of the project will therefore be undertaken under a gender-responsive approach to ensure opportunities are equally available to men and women; paying particular attention to support whenever possible those groups that have a key role in bringing income to families and/or whose involvement on particular activities could boost their potential for future work engagements. Women and youth groups will be involved whenever possible into all project activities on capacity building, implementation at project sites, monitoring and evaluation to ensure sustainability of invariable recurrent costs and /or return of investment.

267. During the implementation of the project's activities budget has been allocated to undertake an analysis at the local level to determine the roles of women and youth in their communities before embarking on work. Such an analysis will be utilized to determine how best to undertake specific activities to ensure their inclusion and to maximise impact/benefit. For example, if women are mostly responsible for gardening/horticulture then particular care will be taken to provide targeted inclusion in EDRR training/delimitation surveys for Yellow Crazy Ant or Fire Ants. And if women and youth are primarily responsible for gathering marine invertebrates for food then identification/detection training of new marine IAS would specifically target women and youth. New fish species might need both men and women/youth involvement equally – at the point of capture (men if this is primarily their responsibility) and at the point of cooking/consumption (if preparation is primarily the role of women) – both sectors need to be attuned to new species to detect early incursions of potentially invasive alien species.

268. Where there are local restoration projects (e.g. Niue, Tonga, RMI) possible steps will be taken to ensure that women and youth are involved in organising/owning the local implementation of these projects and will receive the necessary training/capacity development required to empower them to act in these roles. Correspondingly, training offered by the PRISMSS for NPCs and the like will consistently include as a standard topic inclusive gender/youth planning so that at local level these sectors are included as much as possible

269. During the development of NISSAP's and other policy documents / modalities the PSC will ensure that any TOR's for agencies involved recognise as a requirement gender/youth rights. Gender considerations will also be integrated into policy development. It is not expected this will present a major issue because all participating Governments have strong Gender policies and women well placed in senior Environment Management roles (as cited above) who will also be members of NISSAP TAG's.

270. At the project management level gender considerations will also be taken into account in the process of recruitment of project personnel and consultants, trying whenever possible to balance between male and female. All the Government agencies of the participating countries and agencies have gender equality policies and so recruitment procedures will have to comply with these which will

ensure equal opportunities are afforded. UN Women (Pacific office) has been active in Tonga, Niue and Tuvalu and consultations during the PPG phase with UN Women have indicated that awareness of best practice for gender equality in the Government sectors in these countries is adequate. From casual observations it seems that there is a high proportion of women in the workforce employed in IAS/ biosecurity activities (as reported above) and the environment sector generally in the four participating countries and in other PICTs.

271. Gender disaggregated data for the issue of IAS/ biosecurity, as mentioned above (paragraph 264), are lacking in the Pacific as a whole. The project will collect disaggregated information with respect to gender in its reporting and ensure where possible that project implementation considers gender equality. Specific gender indicators have been included in the project's log-frame and the PMU/PSC will be in regular contact with the UN Women Samoa office which has offered to provide ongoing advice and already provided a toolkit (UN Women unpub). Output 4.1.4 in particular will aim to put in place a regionally capable information system delivering case studies, guidelines, standard operating procedures and tools generated by components one to three. The system will include sex disaggregated data on women and youth participation in IAS/ biosecurity activities and outputs.

272. Finally, to ensure formally recording lessons learned and to provide a qualitative assessment, the monitoring review and terminal evaluation will include specific questions related to gender integration. Lessons learned and recommendations from evaluation reports and other reporting will be widely disseminated (e.g. UN Environment and SPREP networks) to assist future work in this area.

#### **SECTION 4: INSTITUTIONAL FRAMEWORK & IMPLEMENTATION ARRANGEMENTS**

273. Institutional framework: the project internal and external structure diagrams and description of the roles and responsibilities of the various actors responsible for project delivery are presented in detail in Appendix 9.

274. UN Environment, as the implementing agency, will be responsible for Project supervision, tracking and evaluation, including supervision of the mid-term review and terminal evaluation, and revising and approving semester and annual reports (both financial and technical). It will also provide guidance regarding global environment benefits (GEB), analysis and technical support in pertinent fields, disseminating knowledge and lessons learned between allied projects it supervises across portfolios, and other liaison and coordinating actions necessary for correct Project implementation. The SPREP will act as the Executing Agency and the Regional Project Coordinator and colleagues will be based on the SPREP campus in Apia, Samoa. The project manager will work closely with the UN Environment Task Manager (who is also based on the SPREP campus in UN Environment's sub-regional Pacific Office).

275. For the purposes of project implementation, a Project Cooperation Agreement will be signed between SPREP and UN Environment for the implementation of this project. SPREP in turn will establish legally binding cooperation agreements with Tonga, Niue, Republic of Marshall Islands and Tuvalu with the aim of facilitating the execution of activities at a national level (i.e. components 1, 2 and 3). The agreements will be signed with their designated national executing agencies: Tonga – Ministry of Meteorology, Energy, Information, Disaster Management, Environment, Communication and Climate Change (MEIDFECC); Niue – Ministry of Natural Resources (MNR); RMI – Office of Environmental Planning and Policy Coordination (OEPPC); Tuvalu – Department of Environment. These 4 countries will designate both a technical and administrative person to facilitate communication on technical and financial issues including regular reporting functions. These positions will be paid for by the project except where government agencies have existing positions to fill this role.

276. Project management/PMU: The Project Management Unit (PMU) consists of the SPREP IAS Advisor (5% of their time, in-kind support to the project from SPREP to oversee the project, manage staff and SPREP internal systems related to the project), the Project Manager (14% of their time project management including preparation of procurement plans, terms of reference and procurement packages, management of consultant activities, management of output deliverables, 86% of their time outside of project management providing technical support to project activities), see Appendix 10), (3) Project Coordinator (16% of their time project coordination/management assistance including maintenance of records of all project-related documentation, knowledge management, compilation of financial reports, compilation and preparation of progress reports for the project and consultation with project stakeholders, 84% of their time outside of project management providing technical management support to project activities). In addition, the PMU will share a Financial Officer with other SPREP projects preparation of the financial reports. The project manager and SPREP IAS advisor will be the main contacts for all the project partners, serving as the main project focal point for the countries, UN Environment, partners/co-financiers and the project's steering committee. The project internal and external working diagrams are presented in Appendix 9. In summary, the PMU will be responsible for operational planning, managing the budget and the execution of all Project activities plus drafting terms of reference and selecting the necessary outside consultancies. It will prepare the coordination meetings with the different partners and the Project Steering Committee, as well as the Project's annual plans, evaluation and monitoring reports and others as needed. The PMU will report to the Executing and Implementing agencies.

277. National participation/coordination: Countries will appoint a National Project Coordinator (NPC) and administrative assistant. The NPC will represent country interests on the Project Steering Committee (PSC). The NPC the person responsible for supervising and ensuring delivery of project activities at a national level. The governments of Niue and Tonga have existing positions (institutionalized following the GEF-PAS IAS project) which will co-finance the NPC role whereas the project will cover the costs of the NPCs in RMI and Tuvalu.

278. Project Steering Committee (PSC): The SPREP IAS Advisor, UN Environment Task Manager based at SPREP, Project Manager, NPC's from each of the participating countries in addition to the regional partners to the PRISMSS (currently SPC, IC, Landcare NZ Ltd, Pacific Biosecurity) will make up the (international) Project Steering Committee. The PSC will meet twice a year – one virtual meeting and the second face-to-face coupled up with the PILN meetings to be held during the duration of the project. The partners' participation in the regular PSC meetings is necessary to ensure buy-in and their technical and financial support and approval of the annual budget and work programme. The PM will meet virtually on an ongoing basis but at least once a month with the NPC's to ensure currency with the national projects. In its meetings the PSC will guide / steer decisions such as reviews of project progress/performance/risk assessment and mitigation/problem solving. This work will contribute to the Project Implementation Review process and the six month/semester reporting narratives; mid-term review and terminal evaluation. The PSC will also coordinate collaboration between the PRISMSS partners and the projects' activities and outputs.

279. In summary, the PSC is responsible for ensuring that the project meets the goals outlined in the project results framework by helping to balance conflicting priorities and resources. The PSC's main functions will be to assure compliance with the Project's objectives, carry out tracking of its activities, offer strategic guidance and supervise compliance with the annual work plans, collaborate in inter-institutional coordination, and guarantee the active participation and compliance with the commitments acquired by the institutions they represent, as well as contributing to the reports of Project evaluation, monitoring and tracking, at mid-term and at the end of the process.

280. The Project partners (members of the PSC and other strategic partners), will contribute to implementation of the different activities included in the Project, financing initiatives in all four components, as well as providing information, technical and institutional support, and assistance in implementing pilot projects.

281. Project Management and Financial Management Information Systems: The project will use SPREP's project and financial systems which are GEF / World Bank design standards and compliant (as mentioned above). These are online platforms available for all SPREP executed projects to manage project information. These systems plus the web-based technical resource centre will serve as project management tools and also as data repositories for project information, reports, and documents for the executing and implementing agencies.

## **SECTION 5: STAKEHOLDER PARTICIPATION**

282. During the project preparation phase key stakeholders were consulted in four national consultations. During the consultations stakeholders identified and agreed with the consultative team priorities for their national projects and some of the constraints experienced in managing IAS/ biosecurity issues in-country. The national consultations endorsed the project and its proposed activities and outputs.

283. While in-country consultations were carried out every opportunity was taken to negotiate the inclusion of local environment organisations (where they existed) and villages (which by default will include their schools) who attended meetings. Details of local organisations and villages consulted are described in Table 26 below and more will certainly participate as the project is implemented in each of the countries. Additional participation of local agencies/CSO's from countries around the Pacific is expected via the PRISMS organised activities which are open to all the Pacific SIDS and territories.

284. SPREP also canvassed established colleagues from the PIP and four have joined as substantive partners –the Pacific Community, Island Conservation, Landcare Research NZ Ltd and Pacific Biosecurity. Other agencies such as Conservation International were also canvassed and have agreed to actively search for ways to collaborate with the project. Similarly, PIP members will continue to seek ways to support the project. Traditional bilateral supporters of IAS/ biosecurity in the Pacific – particularly Governments of New Zealand and Australia (and possibly USA) will be canvassed for their ongoing support – especially for a sustainable financing system.

285. During project implementation, stakeholder participation will include the provision of co-financing, participation of technical staff in workshops, training, and tools development, the facilitation of project outputs and processes, the provision of project oversight through participation on the PSC, and as data sources and technical expertise relevant for the formulation of IAS strategies. Stakeholders at a national and regional level will also actively participate and have a key role in institutionalization of project results and lessons learned to allow for upscaling, replication and sustainability.

286. Furthermore, gender considerations have been taken into account when developing the project proposal and are planned for its implementation. The roles of men and women in so many aspects related to biodiversity conservation are differentiated and complementary, as has been described in section 3.18 above.

287. During project implementation, stakeholder participation will include the provision of co-financing, participation of technical staff in workshops, training, and tools development, the facilitation of project events and processes, the provision of project oversight through participation on



the PSC, and as data sources and technical expertise relevant for the formulation of IAS strategies. Stakeholders at a national and regional level will also actively participate, and have a key role, in institutionalization of project results and lessons learned to allow for upscaling, replication and sustainability. The following table provides information on the role of the stakeholders on project's implementation.

**Table 2526: Country stakeholders with a confirmed role in project implementation**

| COUNTRY/ STAKEHOLDER  | POLE IN PROJECT'S IMPLEMENTATION  |
|---|---|
| <b>Tonga</b>  |   |
| Ministry of Meteorology, Information, Disaster Management, Climate Change, Environment, Climate Change and Communications | National executing agency (Department of Environment), technical advice on matters pertaining to operationalising the project. Member of the national cross sectoral committee (NISSAP TAG / national PSC)  |
| Ministry of Agriculture, Food and Forestry  | Collaborator and technical advice on matters pertaining to the Agriculture. Member of the national cross sectoral committee (NISSAP TAG / national PSC)   |
| Department of Fisheries   | Collaborator and technical advice on marine matters. Member of the national cross sectoral committee (NISSAP TAG / national PSC)  |
| Ministry of Finance and National Planning   | Advice on sustainability and mainstreaming project staff into core Government functions   |
| Ministry of Lands, Survey & Natural Resources   | Collaborator and technical advice on matters pertaining to the Agriculture. Member of the national cross sectoral committee (NISSAP TAG / national PSC)   |
| Ministry of Tourism   | Technical advice on matters related to the impact of IAS in the tourism sector and vice versa plus how to develop ecotourism in restoration areas. Possible member of the national cross sectoral committee |
| Ministry of Education and Training  | Advice on outreach – especially involving schools   |
| Ministry of Information & Communications  | As above  |
| National NGOs - VEPA  | Partners for operational work in Vava'u with communities, environmental education and awareness.  |
| <b>Niue</b>   |   |
| Ministry of Natural Resources, Departments of Environment, Agriculture Forestry and Fisheries                             | National executing agency (Department of Environment), technical advice on matters pertaining to operationalising the project. Member of the national cross sectoral committee (NISSAP TAG / national PSC)  |
| Ministry of Social Services, Department of Education  | Advice on outreach – especially involving schools   |
| <b>Republic of Marshall Islands</b>   |   |
| Office of Environment Planning and Policy Coordination  | Oversight role, policy advice on matters pertaining to operationalising the project. Member of the national cross sectoral committee (NISSAP TAG / national PSC)  |
| Marshall Islands Marine Resources Authority   | Technical advice on matters pertaining to operationalising the project. Member of the national cross sectoral committee (NISSAP TAG / national PSC)   |

|  |   |
|--|---|
| Ministry of Natural Resources and Commerce, Division of Agriculture. | National executing agency, technical advice on matters pertaining to operationalising the project. Member of the national cross sectoral committee (NISSAP TAG / national PSC)                      |
| Marshall Islands Conservation Society                                | During country consultation MCS signalled its interest in assisting the project and it is expected it will be involved during its implementation  |
| <b>Tuvalu</b>  |   |
| Ministry of Natural Resources, Energy and Environment.               | National executing agency, technical advice on matters pertaining to operationalising the project. Member of the national cross sectoral committee (NISSAP TAG / national PSC). Includes Fisheries. |
| Ministry of Finance and Economic Planning                            | Advice on sustainability and mainstreaming project staff into core Government functions   |
| Ministry of Home Affairs and Rural Development                       | Advice for operational activities with island communities.  |
| <b>Regional Organizations</b>  |   |
| UN Environment   | UN Environment will be the implementing agency of the project.  |
| SPREP  | SPREP will be the regional executing agency of this project   |
| SPC  | Partner to project – co-financing/in-kind and part of the PRISMSS and PSC   |
| Island Conservation  | Partner to project – co-financing/in-kind and part of the PRISMSS and PSC   |
| Landcare Research NZ Ltd   | Partner to project – co-financing/in-kind and part of the PRISMSS and PSC   |
| Pacific Biosecurity  | Partner to project – co-financing/in-kind and part of the PRISMSS and PSC   |

| Local Organisations  |  |
|--|--|
| Village / community organisations such as Councils, Women's and Youth Groups | Local partners to national sub-projects and activities including:<br>Tonga – Vava'u Environment Protection Association; Talau Village; Tupou College<br>Niue – all villages; Niue Ocean Wide<br>RMI – Marshall Islands Conservation Society<br>Tuvalu – none found |

## SECTION 6: MONITORING AND EVALUATION PLAN

288. The project will follow UN Environment standard monitoring, reporting and evaluation processes and procedures. Substantive and financial project reporting requirements are summarized in Appendix 8. Reporting requirements and templates are an integral part of the UN Environment legal instrument to be signed by the executing agency and UN Environment.

289. The project M&E plan (Appendix 7) is consistent with the GEF Monitoring and Evaluation policy. The Project Results Framework presented in Appendix 4 includes SMART indicators for each expected outcome as well as mid-term and end-of-project targets. These indicators along with the key deliverables and benchmarks included in Appendix 6 will be the main tools for assessing project implementation progress and whether expected project results are being achieved. The means of verification and the costs associated with obtaining the information to track the indicators are summarized in Appendix 7. Other M&E related costs are also presented in the Costed M&E Plan and are fully integrated in the overall project budget.

290. The M&E plan will be reviewed and revised as necessary during the project inception workshop to ensure project stakeholders understand their roles and responsibilities vis-à-vis project monitoring and evaluation. Day-to-day project monitoring is the responsibility of the Project Management Unit but other project partners will have responsibilities to collect specific information to track the indicators. It is the responsibility of the Project Manager to inform UNE of any delays or difficulties faced during implementation so that the appropriate support or corrective measures can be adopted in a timely fashion.

291. The project Steering Committee (PSC) will receive periodic reports on progress and will make recommendations to UN Environment concerning the need to revise any aspects of the Results Framework or the M&E plan. Project oversight to ensure that the project meets UN Environment and GEF policies and procedures is the responsibility to the Task Manager in UN Environment. The Project Manager and SPREP IAS Advisor will review the quality of draft project outputs, provide feedback to the project partners, and establish peer review procedures to ensure adequate quality of scientific and technical outputs and publications.

292. Project supervision will take an adaptive management approach. The Executing Agency in conjunction with the Task Manager will develop a project supervision plan during the Project Cooperation Agreement between the IA and EA process, which will be communicated to the project partners. The emphasis of the Task Manager supervision will be on outcome monitoring but without neglecting project financial management and implementation monitoring. Progress vis-à-vis delivering the agreed project global environmental benefits will be assessed with the PSC at agreed intervals. Project risks and assumptions will be regularly monitored both by project partners and UN Environment. Risk assessment and rating is an integral part of the Project Implementation Review (PIR). The quality of project monitoring and evaluation will also be reviewed and rated as part of the

PIR. Key financial parameters will be monitored quarterly to ensure cost-effective use of financial resources.

293. In-line with UN Environment Evaluation Policy and the GEF's Monitoring and Evaluation Policy the project will be subject to a Terminal Evaluation. Additionally, a Mid-Term Review will be commissioned and launched by the UN Environment Task Manager before the project reaches its mid-point in collaboration with the SPREP IAS Advisor (EA's primary officer responsible for the project). If the project is rated as being at risk (via the annual Project Implementation Review process), a Mid-Term Evaluation may be conducted by the Evaluation Office instead of an MTR. Decisions around the MTR/MTE (including budgeting ramifications) will be negotiated between the UN Environment TM, SPREP IAS Advisor, PM and PSC with the UN Environment TM taking the lead role.

294. The Evaluation Office of the UN Environment will be responsible for the Terminal Evaluation (TE) including setting its Terms of Reference and will liaise with the Task Manager and Executing Agency throughout the process. The TE will provide an independent assessment of project performance (in terms of relevance, effectiveness and efficiency), and determine the likelihood of impact and sustainability. It will have two primary purposes: (i) to provide evidence of results to meet accountability requirements, and (ii) to promote learning, feedback, and knowledge sharing through results and lessons learned among UN Environment, the GEF, executing partners and other stakeholders. The direct costs of the evaluation will be charged against the project evaluation budget. The Terminal Evaluation will be initiated no earlier than six months prior to the operational completion of project activities and, if a follow-on phase of the project is envisaged, should be completed prior to completion of the project and the submission of the follow-on proposal. Terminal Evaluations must be initiated no later than six months after operational completion.

295. The draft Terminal Evaluation report will be sent by the Evaluation Office to project stakeholders for comments. Formal comments on the report will be shared by the Evaluation Office in an open and transparent manner. The project performance will be assessed against standard evaluation criteria using a six-point rating scheme. The final determination of project ratings will be made by the Evaluation Office when the report is finalised and further reviewed by the GEF Independent Evaluation Office upon submission. The evaluation report will be publicly disclosed and may be followed by a recommendation compliance process.

296. While a TE should review use of project funds against budget, it would be the role of a financial audit to assess probity (i.e. correctness, integrity etc.) of expenditure and transactions. The direct costs of reviews and evaluations will be charged against the project evaluation budget.

297. The GEF tracking tools are attached as Appendix 15. These will be updated at mid-term and at the end of the project and will be made available to the GEF Secretariat along with the project PIR report. As mentioned above the mid-term and terminal evaluation will verify the information of the tracking tool.

## **SECTION 7: PROJECT FINANCING AND BUDGET**

### *7.1 Overall project budget*

298. The overall project budget is presented in detail in Appendix 1 (GEF budget by project components, by year and UN Environment budget lines) and Appendix 2 (co-financing by source and UN Environment budget lines).

|                            |      |            |     |
|----------------------------|------|------------|-----|
| Cost of project            | US\$ | 28,429,646 |     |
| Cost to the GEF Trust fund | US\$ | 6,252,489  | 22% |
| Co-finance                 | US\$ | 22,177,157 | 78% |

## 7.2 Project co-financing

299. Co-financing by project lines is presented in Appendix 2.

## 7.3 Project Cost-effectiveness

300. The incremental benefits from this Project are based on maximizing the impact of the present investments by the many national and regional stakeholders in combating the threats of IAS to biodiversity and the economic sectors plus improving biosecurity. To ensure this is achieved, the project will provide capacity building and tools to those who are currently engaged in early detection, rapid response and management, control and eradication of IAS. In addition, the legal and policy framework will be addressed to create a more favourable environment for those currently engaged in IAS management while empowering them to build the capacity of additional persons in both the private and public sectors to ensure a critical mass of human capacity is available to address this issue.

301. The regional nature of the project also adds to its cost-effectiveness, since a pool of resources will be used to generate tools that are of importance for all PICTs, therefore avoiding replicating the same action on each of the countries. The selection of SPREP as executing agency is also an important aspect in relation to the cost-effectiveness since SPREP will directly contribute to the generation and revision of technical products ensuring high quality and impact. Along the same lines, UN Environment works closely with various countries of the region on other GEF national and regional projects. This adds to the cost-effectiveness since it will facilitate networking, sharing of lessons, and (if possible) cooperation amongst projects or actors that could result in savings.

302. In considering Project cost effectiveness, it is important to keep in mind that one key Project focus is communication and replicability of the lessons learned beyond just the intervention areas, by working in close collaboration with local, regional and national authorities in such a way as to maximize the impact of the expected results within the Project countries and the wider Pacific. Further, UN Environment has undertaken to facilitate the exchange of knowledge and lessons learnt between allied projects it is IA for such as the Caribbean (a similar project to the current one).

303. The project will explore ways for sustainable funding within countries and at regional level using models already tested in past projects and new projects about to begin. This will generate significant leverage for the current project and long term added value.

304. Finally, cost-effectiveness is ensured through a prescribed project management process that will seek the best-value-for-money. UN Environment and SPREP's rules employ a transparent process of bidding for goods and for services based on open and fair competition and selection of best value and best price alternatives.

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## APPENDICES

- Appendix 1: Budget by project components and UNEP budget lines (separate file)
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**Note: Appendices 1, 2, 11, 12, and 15 are shared as separate files; the remaining appendices follow.**

*Appendix 1: Budget by project components and UNEP budget lines (separate file)*

*Appendix 2: Co-financing by source and UNEP budget lines (separate file)*

*Appendix 3: Incremental Cost Analysis*

| <b>BASELINE</b>  | <b>ALTERNATIVE</b>  | <b>INCREMENT</b>  |
|--|---|---|
| (A)  | (B)   | (B) - (A)   |
| <b>COMPONENT 1: Strengthening institutional frameworks and capacities for IAS management</b>   |   |   |
| Without the GEF intervention, invasive species management in Tonga, Niue, RMI and Tuvalu will continue to be managed in an ad hoc manner without taking full advantage of the NISSAP concept and with weak coordination within countries. Between countries there is little or no standardisation participating in the project and the wider Pacific (including Territories). This Management will continue to use methods that are more reactive than proactive, resulting in less than optimum results for monies expended. There will be very little joint efforts at managing common problems. | With the GEF intervention, the NISSAP process will be enabled again (and installed for the first time in Tuvalu) with cross sectoral coordinating arrangements (NISSAP TAGs) which will result in faster response times to identified incursions and more importantly streamlining of efforts at surveillance and early detection of IAS. The project will generate knowledge and information on the impact of IAS on biodiversity in the PICTS. The project will also share with the global audience information on IAS in these small island developing states. | Awareness of the impact of IAS increased. Policy and protocol environment made more favourable for stakeholders in the public sectors to act to prevent IAS introduction and respond more rapidly in a coordinated fashion to reduce the impact of IAS and by extension protect native biodiversity and human assets (e.g. agriculture, human health).  |
| <b>COMPONENT 2: Establishing national systems for prioritizing IAS management</b>  |   |   |
| Baseline knowledge of terrestrial and marine natural habitats is variable with the participating countries ranging from none to comprehensive. Systematic and structured surveillance aimed at detecting new incursions of identified high risk IAS or changes in status of existing IAS does not exist. Risk assessment protocols for IAS and means to prioritise IAS management does not exist – particularly developing site and species led programmes.  | In the alternative with GEF support, terrestrial and marine baseline data will be collected as necessary, compiled, assessed/analysed and surveillance systems established (national borders and inter-island/within national borders). Priority IAS management and eradication (site and species led) projects identified for each country. National capacity will be designed so that it is mainstreamed into core Government business.   | National border security significantly improved against formally identified and assessed high risk IAS with attendant reductions in the impacts and costs of coping with new IAS establishing (e.g. ant species). Control and eradication projects identified will be implemented and bring the maximum/optimal benefits to biodiversity/other sectoral interests (e.g. agriculture). The business case is so strong that IAS/ biosecurity work will be mainstreamed into core Government work.   |
| <b>COMPONENT 3: Implementing programmes for IAS risk reduction, Early Detection and Rapid Response (EDRR), eradication, control and restoration</b>  |   |   |
| <p>IAS risk reduction programmes suffer from adhoc planning and design and are not comprehensive nor driven by formal systematic analytical processes covered by Component 2. Biosecurity at national borders and inter-island borders is non-existent or weak.</p> <p>EDRR protocols for formally and systematically identified priority IAS weak or non-existent.</p> <p>Sustained control programmes for priority IAS non-existent or lapsed since previous projects and the use of modern efficient</p>  | <p>With the GEF contribution, the highest risks to national biosecurity (and inter-island) have been identified and measures are in place to raise national border and inter-island biosecurity. Relevant training is carried out.</p> <p>EDRR Protocols have are in place for systematically and formally identified highest risk IAS including training, simulation exercises and necessary specialist equipment.</p> <p>Control programmes for priority IAS are in place using state of the art technology</p>   | <p>Biosecurity of four countries significantly improved (plus other PICTs to the extent they elect to participate in training and support opportunities) with attendant drops in the costs of dealing with new incursions such as tramp ant species. Incursions can be tackled with state of the art EDRR protocols/trained personnel/equipment. Sustainable control programmes are underway using the most economic methods including bio-control (using known agents and thus avoiding full costs of finding new agents). These and</p> |

| <b>BASELINE</b>   | <b>ALTERNATIVE</b>  | <b>INCREMENT</b>   |
|---|---|--|
| (A)   | (B)   | (B) - (A)  |
| <p>methods such as bio-control agents has not been fully exploited.</p> <p>Eradication projects have been successfully completed in past projects in Tonga but have not been continued or started in the other participating countries nor set up on an ongoing basis and tied into restoration programmes.</p> <p>Women and youth have been involved in IAS/ biosecurity activities in country but with the cessation of some projects/activities their involvement has dropped off.</p> | <p>and methods including bio-control options.</p> <p>Ongoing eradication programme underway with formally declared successes as described in the Results Framework. Eradication projects coupled up with systematically identified restoration programmes consolidated with relevant training workshops for in-country project staff (including training the trainer approaches).</p> <p>All interventions will be driven by the outputs from Component 1.</p> <p>As with other technical aspects of the project all technical products from the project including training workshops will be available to all other PICTS.</p> <p>The contribution of women and youth sectors will be built into the process of long term projects and activities.</p> | <p>eradication programmes will be integrated into priority restoration projects will also be leveraged by securing IUCN Red List threatened species whose main threats are IAS. Core Government staff will be trained in the skill-set required for ongoing projects. Sustained contribution to IAS/ biosecurity activities from women and youth.</p>  |
| <b>COMPONENT 4: Establishing a Pacific islands regional support framework for IAS management</b>  |   |  |
| <p>A regional technical IAS and Biosecurity support service, provided by SPREP and supported to an extent by partners such as SPC, IC and others has operated during the execution of the GEF PAS Pacific IAS project but has not been formally established as part of a comprehensive service available to all PICTs on an ongoing sustainable basis.</p>  | <p>The GEF intervention will enable a comprehensive IAS/ biosecurity technical support service (PRISMSS) to be established with the EA – SPREP supported by formal partnerships with at least four expert agencies in the main fields of IAS/ biosecurity work. It will run the training, mentoring and information service for the four participating countries and it will be available to all other PICTs (and at least the information service to other SIDS outside the Pacific).</p> <p>The PRISMSS will be able to demonstrate proof of concept and offer its services to other IAS/ biosecurity related projects and in so doing show sustainability.</p>   | <p>Whereas previously there was no PRISMSS which was sustainable, by the end of the project it will exist and have demonstrated proof of concept including generating a pay-as-you-go service. The PRISMSS will have upgraded a significant proportion of the IAS/ biosecurity activity in Pacific Region (as well as benefitting other SIDS regions) to state of the art and restored biodiversity assets in a significant number of islands through eradication/IAS control.</p> |
| <p><b>BASELINE COST*</b></p> <p>TOTAL: US\$13,445,210</p>   | <p><b>ALTERNATIVE COST**</b></p> <p>GEF: US\$6,252,489</p> <p>Co-financing: US\$22,177,157</p> <p>Baseline: US\$13,445,210</p> <p><b>TOTAL: US\$41,874,856</b></p>  | <p>GEF: US\$6,252,489</p> <p>Co-finance: US\$22,177,157</p> <p><b>TOTAL: US\$28,429,646</b></p>  |

\*Five year expenditure in the region including territories over 2010 to 2015, and estimated to be what would occur to maintain the status quo over the period of the current project (best case scenario)

\*\*projected expenditure by the current project over the next five years

*Appendix 4: Results and Project Outcome framework*

| Objective and Outcomes  | Indicators   | Baseline value | Target value      |                         | Sources of verification                           | Assumptions   |
|---|--|----------------|-------------------|-------------------------|---|---|
|   |  |                | Mid-term (2021)   | End of Project (2023)   |   |   |
| <b>Objective:</b><br>Reduce the threats from IAS to terrestrial, freshwater and marine biodiversity in the Pacific by developing and implementing comprehensive national and regional IAS management frameworks | Area of forest and forest land restored  | 30 ha          | No midterm target | 22,419 ha               | Project reporting mechanisms including MTR and TE | Ongoing political support for IAS biosecurity issues in-country.  |
|   | Area of landscapes under improved management to benefit biodiversity (qualitative assessment, not certified) | 0 ha           | No midterm target | 7,550 ha <sup>7</sup>   | Project reporting mechanisms including MTR and TE | Partner support continues and indeed grows.<br><br>Sustainability programme at country and regional level is successful including perception by PICTs that the PRISSMS is a successful model. |
|   | Area of marine habitat under improved practices to benefit biodiversity (excluding protected areas)          | 0 ha           | No midterm target | 105,148 ha <sup>8</sup> | Project reporting mechanisms including MTR and TE | Equitable opportunities to apply for positions, and existing gender   |

<sup>7</sup> This figure represents a subset of the ‘area of forest and forest land restored’ as it concerns land managed (landscape) for subsistence agriculture.

<sup>8</sup> This is the area indirectly covered by the project and includes the coastal marine area adjacent to the terrestrial areas where eradications will occur.

| Objective and Outcomes | Indicators   | Baseline value   | Target value  |   | Sources of verification   | Assumptions   |
|------------------------|--|--|---|---|---|---|
|                        |  |  | Mid-term (2021)   | End of Project (2023)   |   |   |
|                        | Enhanced capacity for IAS management and biosecurity improvement using NISSAP's, TAG's, EDRR protocols etc as measured by score on GEF IAS Tracking Tool | 9 out of 27<br>(combined score for all countries)                      | 14 out of 27 averaged over the four participating countries | At least 20 out of 27 averaged over the four participating countries  | Project reporting mechanisms including MTR and TE   | policies are adhered to.  |
|                        | Four countries, four agencies, one project (current)   | Seven countries and territories, five agencies, three projects         | Nine countries and territories, six agencies, five projects | Memoranda of understanding between the PRISMSS and agencies or projects. Countries attending PRISMSS sponsored activities such as training etc. | Number of Pacific countries and territories, support agencies and projects participating in and benefitting from the PRISMSS has significantly increased above the inaugural numbers at the outset of the project | PRISMSS is perceived by other parties working in the Pacific as a successful forum / model which will add value to their operations<br><br>Marketing and advocacy is successful |
|                        | Gender representation in government positions  | 12 female staff out of 25 positions in the environment sector in the 4 | No midterm target   | 14 female and 11 male staff   | Organization charts of relevant government  |   |

| Objective and Outcomes  | Indicators   | Baseline value   | Target value   |   | Sources of verification  | Assumptions  |
|---|--|--|--|---|--|--|
|   |  |  | Mid-term (2021)  | End of Project (2023)   |  |  |
|   | (environment sector)   | countries' governments   |  |   | environment agencies   |  |
|   | Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment | Zero beneficiaries have access to IAS programs, and services, and protection of traditional livelihood                   | No midterm target  | 62,000 men and 62,000 women in the communities where the project will be implemented will directly benefit from project activities that protect traditional livelihoods       | Project data and project reporting – sex disaggregated information maintained by National Project Managers |  |
| <b>Outcome 1.1:</b><br>All participating countries have a comprehensive and effective administrative framework established and countries are enabled to manage invasive alien species | Operational TAGs in all four countries   | 0<br>(None of the countries have TAGs)   | 4 TAGs are established in each country   | 4 TAGs fully operational and are supervising IAS/biosecurity work programmes and rolling out project deliverables   | TAG meeting records  | All relevant agencies nominated for the NISSAP TAG assume their roles and responsibilities seriously and make every endeavour to make the TAG work |
|   | NISSAPs under implementation all four countries  | 0<br>(Tuvalu has no NISSAP; Tonga, Niue, RMI have NISSAPs that need review and updating)                                 | 1 new NISSAP for Tuvalu<br>3 revised NISSAPs for Tonga, Niue, RMI                    | 4 NISSAPs under implementation  | M&E records<br>Government documentation of institutionalized systems and processes supporting NISSAPs      |  |
| <b>Outcome-2.1:</b><br>Enhanced IAS surveillance and control strategies reduce introduction rates and contain   | IAS risk protocols established all four countries                                      | All countries have some capacity for prevention of IAS but none have reached standards that can be relied on for EDRR or | Baseline studies on the status of IAS in participating countries have been completed | Detection regimes for IAS incursions in high-risk habitats are under implementation<br><br>Protocols for determining priorities used to identify species and sites of highest | Survey reports describing baselines<br><br>Official peer reviews of protocols                              | Baseline surveys are comprehensive enough and capture all IAS (especially those that exist at  |

| Objective and Outcomes  | Indicators  | Baseline value   | Target value  |   | Sources of verification   | Assumptions   |
|---|---|--|---|---|---|---|
|   |   |  | Mid-term (2021)   | End of Project (2023)   |   |   |
| populations below thresholds that endanger threatened and endemic species and their habitats in 4 countries |   | rates of detection after incursion to minimize the threats of IAS to native biota                          | Programmes for detecting changes in at-risk native communities designed | priority for IAS / biosecurity interventions for at least the medium term |   | low densities or are patchily distributed)<br><br>Required cross sectoral coordination materializes in a collaborative and efficient manner.<br><br>NISSAP TAG or equivalent performs well enough for the in-country project team to achieve outputs. |
|   | Species & site-specific IAS management plans on small islands completed within each participating country | Mechanisms are not fully developed to contain established IAS to levels which do not threaten native biota | Site and species-specific management plan needs are formally identified | Plans for these sites/species written/formulated                          | Official publications of the plans  |   |
| <b>Outcome-3.1:</b><br>Biosecurity risks are reduced for the highest risk pathways and IAS                  | Stable or increased populations of key species threatened with extinction in the targeted sites           | Species  | B/L pop. size <sup>9</sup>  | Target pop. size  | Operational and post operational reports.<br><br>Survey data on indices of abundance of beneficiary species | Weather events do not compromise operations.<br><br>Detectability of target IAS and beneficiary species   |
|   |   | Ratak Imperial Pigeon  | 60  | 180   |   |   |
|   |   | Friendly Ground Dove (VU)  | Not known   | 2 secure populations  |   |   |
|   |   | Tongan Whistler (NT, endemic)  | Not known   | 2 secure populations  |   |   |
|   |   | Boettger's Skink (EN, endemic)   | Not known   | 2 secure populations  |   |   |
|   |   | Saw-tailed Gecko (EN, endemic)   | Not known   | 2 secure populations  |   |   |
|   |   | Green and Hawksbill turtles  | Not known   | 3 secure breeding beaches   |   |   |

<sup>9</sup> Apart from Ratak Imperial Pigeon for which there is an estimate, there are no estimates possible for the other species albeit they are recognised as threatened. Indeed, estimating population size of even common species of herpetofauna is technically virtually impossible. Capture indices are usually the best that can be possible and these are fraught with technical problems and certainly have never been corroborated with independent population counts. The number of secure populations indicated is also an estimate because the exact distribution of these species is not known. However with post IAS control/eradication monitoring a better handle on the quantitative benefits to these species should be possible. Green and Hawksbill turtles have a regional distribution including many countries and territorial waters so predictions of benefits to population size are not feasible. Hence it is more practical to signal the number of beaches used by breeding females which will benefit from reduced predation from introduced species.

| Objective and Outcomes | Indicators   | Baseline value  | Target value   |  | Sources of verification  | Assumptions   |
|------------------------|--|---|--|--|--|---|
|                        |  |   | Mid-term (2021)  | End of Project (2023)  |  |   |
|                        | Numbers of rodents in the targeted sites   | Species   | B/L pop. size <sup>10</sup>  | Target pop. size   | Survey data on presence / absence of rodents   | is adequate for inferring success   |
|                        |  | <i>Rattus rattus</i>  | Not known  | 0  |  |   |
|                        |  | <i>R. norvegicus</i>  | Not known  | 0  |  |   |
|                        | Number of weed control programmes in operation in Tonga, Niue, RMI, including biocontrol options | <i>Mus musculus</i>   | Not known  | 0  | Documentation on control programs<br><br>M and E results confirm adequate assessment mechanisms in place | Problem free approval process for biological control introductions<br><br>Timely management by NPC including cooperation from Government Agencies |
|                        |  | No weed control programs  | Plan designed, resourcing identified, and all testing protocols completed  | Program incorporating biocontrol options under implementation<br><br>M and E systems in place documenting impacts<br><br>Control programs fully integrated with restoration projects as appropriate  |  |   |
|                        |  | No weed control programs on protected natural areas/conservation areas including those eligible for restoration (neither using standard weed control methods or classical biological control) | Priority weed species in areas of ecological importance identified, and rank ordered<br><br>Options for management identified including using herbicides and/or biological control options | Priority weed control projects using herbicides demonstrated by staff who have received training in herbicide use and M and E for weed control<br><br>Biological control agents introduced and M and E underway for their efficacy<br><br>Restoration plans requiring weed management and/or eradication written |  |   |
|                        | Number of weed control programmes in operation in Tuvalu, including biocontrol options           | No weed control programs on protected natural areas/conservation areas including those eligible for restoration (neither using standard weed control methods or classical biological control) | Priority weed species in areas of ecological importance identified, and rank ordered<br><br>Options for management identified including using herbicides and/or biological control options | Priority weed control projects using herbicides demonstrated by staff who have received training in herbicide use and M and E for weed control<br><br>Biological control agents introduced and M and E underway for their efficacy<br><br>Restoration plans requiring weed management and/or eradication written | M and E results show successful operations for weed management   | Training modules delivered in time to add value to the field-based operations   |

<sup>10</sup> Population size of the various rodent species is not known before eradication but the successful removal/eradication of these species can be determined using established protocols and techniques and this will be done. Eradication of these predatory species will be evidence of successfully removing the risk of extinction of the threatened endemic species identified above.



| Objective and Outcomes | Indicators  | Baseline value   | Target value   |  | Sources of verification   | Assumptions                          |
|------------------------|---|--|--|--|---|--------------------------------------|
|                        |   |  | Mid-term (2021)  | End of Project (2023)  |   |                                      |
|                        |   |  | <p>Training in herbicide use undertaken by appropriate local staff</p> <p>Arrangements for procurement of priority known biological control agents made and possible first introductions carried out</p>         | Planning for future weed control management using herbicides and biological control complete   |   |                                      |
|                        | Control program underway for Yellow Crazy Ant in Tuvalu | <p>YCA established and high risk of spreading further and compromising BD and the lifestyle of communities</p> <p>Attempts at control have not been concerted, coordinated nor benefitted from professional advice from ant control experts.</p> | <p>YCA delimitation surveys completed and control plan written with M &amp; E components</p> <p>Deployment of bait started</p> <p>Publicity and awareness programmes established and incorporate YCA message</p> | <p>Ongoing YCA control monitored and evaluated with adjustments to the control regime made based on the results of assessments of the efficacy of the control regime</p> <p>M &amp; E shows significant decline in distribution and abundance of YCA and no new incursions</p> <p>Communities adjacent to YCA sites fully aware of YCA and management protocols.</p> | <p>M &amp; E results</p> <p>External expert appraisal confirms best practices being used</p> <p>Project reporting mechanisms including MTR and TE</p> | Timely availability of expert advice |

| Objective and Outcomes  | Indicators  | Baseline value  | Target value  |   | Sources of verification  | Assumptions   |
|---|---|---|---|---|--|---|
|   |   |   | Mid-term (2021)   | End of Project (2023)   |  |   |
|   | Restoration programs operational in each country  | 0   | At least two restoration plans have been negotiated, written and approved per country and are linked to other IAS activities as appropriate   | Restoration projects completed and assessed for their success<br><br>Further restoration sites short-listed   | M and E results  | Local approval of restoration projects by traditional owners<br><br>NPC able to coordinate necessary activities in time |
| <b>Outcome 4.1:</b><br>Sustainable support service comprised of Council of Regional Organisations in the Pacific (CROP) agencies and partners established and enabling four countries to respond to existing and potential IAS threats, and is up-scalable to at least the Pacific region | Comprehensive technical support service directly supporting the national projects and other PICTs is in place | SPREP and its partners have been acting in the role of a support service since at least 1999<br><br>This role consolidated as EA for the GEF PAS IAS Pacific project which began in 2011<br><br>Continuity and further development of this role is now required to bring the PICTs closer to capacity | PRISMSS is fully operational<br><br>Offering services such as training to all other PICTs as requested<br><br>Significant additional demand for PRISMSS services from PICTs additional to the four countries originally party to this project | All training modules have been successfully delivered<br><br>Customisation process has been completed for each participating country and programmes (e.g. biocontrol, monitoring restoration etc.) have been completed or ongoing activities are mainstreamed into core business<br><br>PRISMSS has ongoing support past the term of the current project<br><br>Technical resource base (e.g. Battlers series) has a solid track record of uptake by end-users in-country | Records of training modules (attendance, gender disaggregated data etc.)<br><br>In-country support mission reports from SPREP/PRISMSS staff<br><br>Documentation and analysis of all resource requests made to PRISMSS | Other funding agencies join as additional partners supporting the PRISMSS   |

Appendix 5: Work plan and timetable

**A. Tonga**

| Outcome  | Output and Activities and Tasks   | Project Year 1 |     |     |     | Project Year 2 |     |     |     | Project Year 3 |     |     |     | Project Year 4 |     |     |     | Project Year 5 |     |     |     |
|--|---|----------------|-----|-----|-----|----------------|-----|-----|-----|----------------|-----|-----|-----|----------------|-----|-----|-----|----------------|-----|-----|-----|
|  |   | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 |
| 1.1 All participating countries have a comprehensive and effective administrative framework established and countries are enabled to manage invasive alien species | 1.1.1 National cross-sectoral and gender-balanced IAS technical advisory groups established and operational in all four participating countries     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
|  | 1.1.2 Expert input towards strengthened IAS legislation, regulations and policies in place in four countries  |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
|  | 1.1.3 One NISSAP written for Tuvalu; three NISSAPs reviewed and up-dated for the other countries – review for Tonga                                 |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
|  | 1.1.4 Administrative systems and processes to implement NISSAPs are in place allowing their efficient implementation in all participating countries |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
|  | 1.1.5 Field based operational implementation teams are trained in best practice and standard operational  |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |

| Outcome   | Output and Activities and Tasks  | Project Year 1 |     |     |     | Project Year 2 |     |     |     | Project Year 3 |     |     |     | Project Year 4 |     |     |     | Project Year 5 |     |     |     |
|---|--|----------------|-----|-----|-----|----------------|-----|-----|-----|----------------|-----|-----|-----|----------------|-----|-----|-----|----------------|-----|-----|-----|
|   |  | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 |
|   | procedures and mobilised in four countries   |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
| 2.1. Enhanced IAS surveillance and control strategies reduce introduction rates and contain populations below thresholds that endanger threatened and endemic species and their habitats in 4 countries:<br>IAS surveillance and control strategies can be relied on to reduce the risk posed by the introduction of new IAS and contain established IAS populations below thresholds that endanger threatened and endemic species and their habitats in 4 countries. | 2.1.1 Baseline studies of the distribution and status of invasive species, and programme for detecting change, completed in four countries   |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
|   | 2.1.2 Effective protocols for assessing risk and prioritising IAS for management developed and implemented in four countries   |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
|   | 2.1.3 Species and site specific management plans, aligned with the Pacific Biocontrol Strategy as appropriate, developed for priority IAS and priority areas for all four countries. |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
|   |  |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
| 3.1. Biosecurity risks are reduced for the highest risk pathways and IAS  | 3.1.1 Priority risk mitigation measures are identified and necessary actions taken to reduce or eliminate risks in the four countries  |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
|   | 3.1.2 EDRR protocols operational in four participating countries   |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
|   | 3.2.1 At least two sustainable IAS control programmes are  |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |

| Outcome  | Output and Activities and Tasks   | Project Year 1 |     |     |     | Project Year 2 |     |     |     | Project Year 3 |     |     |     | Project Year 4 |     |     |     | Project Year 5 |     |     |     |
|--|---|----------------|-----|-----|-----|----------------|-----|-----|-----|----------------|-----|-----|-----|----------------|-----|-----|-----|----------------|-----|-----|-----|
|  |   | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 |
|  | established in each of at least three participating countries   |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
|  | 3.2.2 Successful eradications of priority species are completed on islands or island groups in at least two countries |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
| 3.2. Impacts of priority IAS species (identified in component 2) reduced | 3.2.3 At least two sites demonstrate measurable restoration outputs as described in restoration plans                 |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
| 4.1 Regional support service   | 4.1.1 Support service assisting country programmes  |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |

**B. Niue (refer to Appendix 4 “Results framework” for country specific details)**

| Outcome  | Output and Activities and Tasks   | Project Year 1 |     |     |     | Project Year 2 |     |     |     | Project Year 3 |     |     |     | Project Year 4 |     |     |     | Project Year 5 |     |     |     |
|--|---|----------------|-----|-----|-----|----------------|-----|-----|-----|----------------|-----|-----|-----|----------------|-----|-----|-----|----------------|-----|-----|-----|
|  |   | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 |
| 1.1 All participating countries have a comprehensive and effective administrative framework established and countries are enabled to manage invasive alien species | <b>Component 1. Strengthening institutional frameworks and capacities for IAS management</b>  |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
|  | 1.1.1 National cross-sectoral and gender-balanced IAS technical advisory groups established and operational in all four participating countries |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
|  |   |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |

| Outcome                                    | Output and Activities and Tasks  | Project Year 1 |     |     |     | Project Year 2 |     |     |     | Project Year 3 |     |     |     | Project Year 4 |     |     |     | Project Year 5 |     |     |     |
|--|--|----------------|-----|-----|-----|----------------|-----|-----|-----|----------------|-----|-----|-----|----------------|-----|-----|-----|----------------|-----|-----|-----|
|  |  | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 |
|  | 1.1.2 Expert input towards strengthened IAS legislation, regulations and policies in place in four countries   |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
|  | <i>1.1.3 One NISSAP written for Tuvalu; three NISSAPs reviewed and up-dated for the other countries</i><br>– review for Niue                               |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
|  | 1.1.4 Administrative systems and processes to implement NISSAPs are in place allowing their efficient implementation in all participating countries        |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
|  | <i>1.1.5 Field based operational implementation teams are trained in best practice and standard operational procedures and mobilised in four countries</i> |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
| 2.1. Enhanced IAS surveillance and control | Component 2. Establishing national systems for prioritizing IAS management   |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |

| Outcome  | Output and Activities and Tasks  | Project Year 1 |     |     |     | Project Year 2 |     |     |     | Project Year 3 |     |     |     | Project Year 4 |     |     |     | Project Year 5 |     |     |     |
|--|--|----------------|-----|-----|-----|----------------|-----|-----|-----|----------------|-----|-----|-----|----------------|-----|-----|-----|----------------|-----|-----|-----|
|  |  | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 |
| strategies reduce introduction rates and contain populations below thresholds that endanger threatened and endemic species and their habitats in 4 countries:<br>IAS surveillance and control strategies can be relied on to reduce the risk posed by the introduction of new IAS and contain established IAS populations below thresholds that endanger threatened and endemic species and their habitats in 4 countries. | 2.1.1 Baseline studies of the distribution and status of invasive species, and programme for detecting change, completed in four countries   |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
|  | 2.1.2 Effective protocols for assessing risk and prioritising IAS for management developed and implemented in four countries   |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
|  | 2.1.3 Species and site specific management plans, aligned with the Pacific Biocontrol Strategy as appropriate, developed for priority IAS and priority areas for all four countries. |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
|  |  |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
|  | <b>Component 3. Implementing programmes for IAS risk reduction, Early Detection and Rapid Response (EDRR), eradication, control and restoration</b>                                  |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
| 3.1. Biosecurity risks are reduced for the highest risk pathways and IAS   | 3.1.1 Priority risk mitigation measures are identified and necessary actions taken to reduce or eliminate risks in the four countries  |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
|  | 3.1.2 EDRR protocols operational in four participating countries   |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
|  | 3.2.1 At least two sustainable IAS control programmes are established  |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |

| Outcome  | Output and Activities and Tasks   | Project Year 1 |     |     |     | Project Year 2 |     |     |     | Project Year 3 |     |     |     | Project Year 4 |     |     |     | Project Year 5 |     |     |     |
|--|---|----------------|-----|-----|-----|----------------|-----|-----|-----|----------------|-----|-----|-----|----------------|-----|-----|-----|----------------|-----|-----|-----|
|  |   | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 |
|  | in each of at least three participating countries   |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
|  | 3.2.2 Successful eradications of priority species are completed on islands or island groups in at least two countries |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
| 3.2. Impacts of priority IAS species (identified in component 2) reduced | 3.2.3 At least two sites demonstrate measurable restoration outputs as described in restoration plans                 |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
| 4.1 Regional support service   | 4.1.1 Support service assisting country programmes  |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |

**C. Republic of Marshall Islands (RMI) (refer to Appendix 4 “Results framework” for country specific details)**

| Outcome  | Output and Activities and Tasks   | Project Year 1 |     |     |     | Project Year 2 |     |     |     | Project Year 3 |     |     |     | Project Year 4 |     |     |     | Project Year 5 |     |     |     |
|--|---|----------------|-----|-----|-----|----------------|-----|-----|-----|----------------|-----|-----|-----|----------------|-----|-----|-----|----------------|-----|-----|-----|
|  |   | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 |
| 1.1 All participating countries have a comprehensive and effective administrative framework established and countries are enabled to manage invasive alien species | <b>Component 1. Strengthening institutional frameworks and capacities for IAS management</b>  |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
|  | 1.1.1 National cross-sectoral and gender-balanced IAS technical advisory groups established and operational in all four participating countries |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
|  | 1.1.2 Expert input towards strengthened IAS legislation, regulations and  |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |



| Outcome  | Output and Activities and Tasks   | Project Year 1 |     |     |     | Project Year 2 |     |     |     | Project Year 3 |     |     |     | Project Year 4 |     |     |     | Project Year 5 |     |     |     |
|--|---|----------------|-----|-----|-----|----------------|-----|-----|-----|----------------|-----|-----|-----|----------------|-----|-----|-----|----------------|-----|-----|-----|
|  |   | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 |
|  | policies in place in four countries   |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
|  | <i>1.1.3 One NISSAP written for Tuvalu; three NISSAPs reviewed and up-dated for the other countries</i><br>– review for RMI                         |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
|  | 1.1.4 Administrative systems and processes to implement NISSAPs are in place allowing their efficient implementation in all participating countries |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
|  | 1.1.5 Field based operational implementation teams are trained in best practice and standard operational procedures and mobilised in four countries |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
|  | <b>Component 3. Implementing programmes for IAS risk reduction, Early Detection and Rapid Response (EDRR), eradication, control and restoration</b> |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
| 3.1. Biosecurity risks are reduced for the highest risk pathways and IAS | 3.1.1 Priority risk mitigation measures are identified and necessary actions taken to reduce or eliminate risks in the four countries               |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
|  | 3.1.2 EDRR protocols operational in four participating countries  |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |

| Outcome  | Output and Activities and Tasks   | Project Year 1 |     |     |     | Project Year 2 |     |     |     | Project Year 3 |     |     |     | Project Year 4 |     |     |     | Project Year 5 |     |     |     |
|--|---|----------------|-----|-----|-----|----------------|-----|-----|-----|----------------|-----|-----|-----|----------------|-----|-----|-----|----------------|-----|-----|-----|
|  |   | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 |
|  | 3.2.1 At least two sustainable IAS control programmes are established in each of at least three participating countries |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
|  | 3.2.2 Successful eradications of priority species are completed on islands or island groups in at least two countries   |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
| 3.2. Impacts of priority IAS species (identified in component 2) reduced | 3.2.3 At least two sites demonstrate measurable restoration outputs as described in restoration plans                   |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
|  |   |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
| 4.1 Regional support service   | 4.1.1 Support service assisting country programmes  |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |

**D. Tuvalu (refer to Appendix 4 “Results framework” for country specific details)**

| Outcome   | Output and Activities and Tasks   | Project Year 1 |     |     |     | Project Year 2 |     |     |     | Project Year 3 |     |     |     | Project Year 4 |     |     |     | Project Year 5 |     |     |     |
|---|---|----------------|-----|-----|-----|----------------|-----|-----|-----|----------------|-----|-----|-----|----------------|-----|-----|-----|----------------|-----|-----|-----|
|   |   | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 |
| 1.1 All participating countries have a comprehensive and effective administrative framework established and countries are enabled | <b>Component 1. Strengthening institutional frameworks and capacities for IAS management</b>  |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
|   | 1.1.1 National cross-sectoral and gender-balanced IAS technical advisory groups established and operational in all four participating countries |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |

| Outcome   | Output and Activities and Tasks   | Project Year 1 |     |     |     | Project Year 2 |     |     |     | Project Year 3 |     |     |     | Project Year 4 |     |     |     | Project Year 5 |     |     |     |
|---|---|----------------|-----|-----|-----|----------------|-----|-----|-----|----------------|-----|-----|-----|----------------|-----|-----|-----|----------------|-----|-----|-----|
|   |   | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 |
| to manage invasive alien species  | 1.1.2 Expert input towards strengthened IAS legislation, regulations and policies in place in four countries  |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
|   | 1.1.3 One NISSAP written for Tuvalu; three NISSAPs reviewed and up-dated for the other countries – new for Tuvalu                                   |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
|   | 1.1.4 Administrative systems and processes to implement NISSAPs are in place allowing their efficient implementation in all participating countries |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
|   | 1.1.5 Field based operational implementation teams are trained in best practice and standard operational procedures and mobilised in four countries |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
| 2.1. Enhanced IAS surveillance and control strategies reduce introduction rates and contain populations below thresholds that | <b>Component 2. Establishing national systems for prioritizing IAS management</b>   |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
|   | 2.1.1 Baseline studies of the distribution and status of invasive species, and programme for  |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |

| Outcome   | Output and Activities and Tasks  | Project Year 1 |     |     |     | Project Year 2 |     |     |     | Project Year 3 |     |     |     | Project Year 4 |     |     |     | Project Year 5 |     |     |     |
|---|--|----------------|-----|-----|-----|----------------|-----|-----|-----|----------------|-----|-----|-----|----------------|-----|-----|-----|----------------|-----|-----|-----|
|   |  | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 |
| endanger threatened and endemic species and their habitats in 4 countries:<br>IAS surveillance and control strategies can be relied on to reduce the risk posed by the introduction of new IAS and contain established IAS populations below thresholds that endanger threatened and endemic species and their habitats in 4 countries. | detecting change, completed in four countries  |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
|   | 2.1.2 Effective protocols for assessing risk and prioritising IAS for management developed and implemented in four countries   |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
|   | 2.1.3 Species and site specific management plans, aligned with the Pacific Biocontrol Strategy as appropriate, developed for priority IAS and priority areas for all four countries. |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
|   | <b>Component 3. Implementing programmes for IAS risk reduction, Early Detection and Rapid Response (EDRR), eradication, control and restoration</b>                                  |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
| 3.1. Biosecurity risks are reduced for the highest risk pathways and IAS  | 3.1.1 Priority risk mitigation measures are identified and necessary actions taken to reduce or eliminate risks in the four countries  |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
|   | 3.1.2 EDRR protocols operational in four participating countries   |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
|   | 3.2.1 At least two sustainable IAS   |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |

| Outcome  | Output and Activities and Tasks   | Project Year 1 |     |     |     | Project Year 2 |     |     |     | Project Year 3 |     |     |     | Project Year 4 |     |     |     | Project Year 5 |     |     |     |
|--|---|----------------|-----|-----|-----|----------------|-----|-----|-----|----------------|-----|-----|-----|----------------|-----|-----|-----|----------------|-----|-----|-----|
|  |   | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 |
|  | control programmes are established in each of at least three participating countries                                  |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
|  | 3.2.2 Successful eradications of priority species are completed on islands or island groups in at least two countries |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
| 3.2. Impacts of priority IAS species (identified in component 2) reduced | 3.2.3 At least two sites demonstrate measurable restoration outputs as described in restoration plans                 |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
| 4.1 Regional support service   | 4.1.1 Support service assisting country programmes  |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |

### **Pacific Regional Invasive Species Management Support Service (PRISMSS)**

#### **Component 4. Establishing a Pacific islands regional support framework for IAS management**

**Outcome 4.1. : Sustainable support service comprised of Council of Regional Organisations in the Pacific (CROP) agencies and partners established and enabling four countries to respond to existing and potential IAS threats, and is up-scalable to at least the Pacific region**

| Output and Activities and Tasks  | Project Year 1 |     |     |     | Project Year 2 |     |     |     | Project Year 3 |     |     |     | Project Year 4 |     |     |     | Project Year 5 |     |     |     |
|--|----------------|-----|-----|-----|----------------|-----|-----|-----|----------------|-----|-----|-----|----------------|-----|-----|-----|----------------|-----|-----|-----|
|  | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 |
| 4.1.1 Support Service supporting the three other components for the four countries and the region, including providing advice on NISSAP development and implementation as required, is operationalized |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
| 4.1.1.1 PRISMSS partners meetings  |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |

| Output and Activities and Tasks   | Project Year 1 |     |     |     | Project Year 2 |     |     |     | Project Year 3 |     |     |     | Project Year 4 |     |     |     | Project Year 5 |     |     |    |
|---|----------------|-----|-----|-----|----------------|-----|-----|-----|----------------|-----|-----|-----|----------------|-----|-----|-----|----------------|-----|-----|----|
|   | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q4 |
|   |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |    |
| 4.1.1.2 Support service with specialist access established supporting PICTs                         |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |    |
| 4.1.1.3 PRISMSS provided specialist country support visits  |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |    |
| 4.1.1.4 PILN meetings for country project managers (and others as requested)                        |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |    |
| 4.1.1.5 Training for inter-island IAS risk mitigation and improving biosecurity and EDRR            |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |    |
| 4.1.1.6 In-country visits to customise and operationalise training from 4.1.1.5 – four visits       |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |    |
| 4.1.1.7 Training for use of agri chemicals and weed management                                      |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |    |
| 4.1.1.8 In-country visits to customise and operationalise training in 4.1.1.7                       |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |    |
| 4.1.1.9 Training for restoration of island ecosystems.  |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |    |
| 4.1.1.10 In-country visits to customise and operationalise restoration training                     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |    |
|   |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |    |
| 4.1.1.11 Training for monitoring baselines and changes.   |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |    |
| 4.1.1.12 In-country visits to customise and operationalise monitoring and baseline changes training |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |    |
|   |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |    |

| Output and Activities and Tasks   | Project Year 1 |     |     |     | Project Year 2 |     |     |     | Project Year 3 |     |     |     | Project Year 4 |     |     |     | Project Year 5 |     |     |     |
|---|----------------|-----|-----|-----|----------------|-----|-----|-----|----------------|-----|-----|-----|----------------|-----|-----|-----|----------------|-----|-----|-----|
|   | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 | Q 1            | Q 2 | Q 3 | Q 4 |
| 4.1.1.13 Training on biological control of weeds.   |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
| 4.1.1.14 In-country visits to customise biological control of weeds training  |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
| 4.1.1.15 Training on eradication – country plans and feasibility  |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
| 4.1.1.16 In-country visits to customise eradication plans   |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
| 4.1.2 Sustainable financing mechanisms in place to support the establishment of a long-term Regional Support Service and national IAS management programs   |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
| 4.1.2.1 Produce options paper for sustainable financing for countries and PRISMSS as Battler series pub for dissemination at a PILN meeting   |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
|   |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
| 4.1.3.1 On line regional guideline and facility for reporting the success and indicators of in-country IAS mitigation for national and international instruments and gender / youth participation in the project in at least four countries |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
| 4.1.4.1 On line information system making available case studies, guidelines, SOP's, tools generated by 4.1.1 to 4.1.3  |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |
| 4.1.5 Based on project outputs, new version of the “Guidelines” for Invasive Species Management in the Pacific (Guidelines) is produced and formally approved   |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |                |     |     |     |

**Notes:** training for project management, including gender considerations, will be included into other training modules (inter-island biosecurity/EDRR, weed management and agri-chemicals, restoration and site-led management, monitoring baselines and changes, biological control of weeds and eradication); modules will be taught in a “block-course” style in one or two comprehensive packages during the fourth quarter of year 1.



Appendix 6: Key deliverables and benchmarks

| OUTPUTS  | ACTIVITIES   | DELIVERABLES   | BENCHMARKS  |
|--|--|--|---|
| 1. Component 1: Strengthening institutional frameworks and capacities for IAS management   |  |  |   |
| <b>Outcome 1.1:</b> All participating countries have a comprehensive and effective administrative framework established and countries are enabled to manage invasive alien species |  |  |   |
| 1.1.1 National cross-sectoral and gender-balanced IAS technical advisory groups established and operational in all four participating countries                                    | 1.1.1. NISSAP technical advisory / supervising groups selected / appointed and meeting regularly every six months. TAG's actively monitoring and supervising progress of project activities. | NISSAP TAG's reinstated in Tonga, Niue, RMI) and fully functional. First NISSAP TAG selected and functional in Tuvalu.   | Reinstated NISSAP TAG's operational in Tonga, Niue, RMI (Y1Q4) and Tuvalu (Y2Q1)  |
| 1.1.2 Expert input towards strengthened IAS legislation, regulations and policies in place in four countries   | 1.1.2. Expert input into the legislative process as appropriate and required to progress the passage of any new statutes and deriving related policies and regulations.                      | Four countries - reviews of Biosecurity statutes, policies and regulations. These have benefitted from the input of the national NISSAP TAG's.<br><br>Statute and regulations reviewed to check that obligations under the Ballast Water Convention are compliant and report on any changes that are required – especially relating to marine IAS. | Operationalised Biosecurity Statutes, policies and regulations in all four countries (Y1Q4)   |
| 1.1.3 One NISSAP written for Tuvalu; three NISSAPs reviewed and up-dated for the other countries   | 1.1.3. NISSAP's reviewed and improvements made. New NISSAP for Tuvalu negotiated and written.  | Three reviewed NISSAP's (Tonga, Niue, RMI) and one new NISSAP written and operational for Tuvalu   | Next generation NISSAP's for Tonga, Niue and RMI written (Y4Q4). New NISSAP for Tuvalu (Y1Q4).  |
| 1.1.4 Administrative systems and processes to implement NISSAPs are in place allowing their efficient implementation in all participating countries                                | 1.1.4. National IAS/ biosecurity work programmes from the current project are fully integrated into the NISSAP implementation.   | Structured national IAS/ biosecurity work annual programmes – costed, resourced, managed, monitored, reported and evaluated.   | Annual plans, evaluations, reporting (following GEF project protocols) (Y1 to 5, quarterly, half year, end of year, midterm, end of term) |
| 1.1.5 Field based operational implementation teams are trained in best practice and standard operational   | 1.1.5. IAS/ biosecurity National Project Coordinators in place in the four countries.  | Needs analyses which drive the design of specified workshop (n => 7); workshop training materials, related Battler series publications (including inter net accessible); workshops run; workshop assessments;  | Gap analyses, workshop reports, training workshop assessments, work   |

| OUTPUTS   | ACTIVITIES   | DELIVERABLES  | BENCHMARKS   |
|---|--|---|--|
| procedures and mobilised in four countries  | Training workshops are run by the PRISMSS in time for country based staff to utilise skills into their related work programmes. Skills based training workshops include the following: marine IAS survey, cost benefit analysis of IAS management and eradication, implementing the Ballast Water Convention, use of agri chemicals, weed management, monitoring baselines and changes, eradication methodology, EDRR and restoration methodology. | all products populated on the SPREP website for IAS Battler series.<br>Topics include: <ul style="list-style-type: none"> <li>• Agri-chemicals</li> <li>• Weed management</li> <li>• Monitoring baselines and changes</li> <li>• Inter-island biosecurity</li> <li>• Eradication methodology</li> <li>• Early Detection and Rapid Response for priority IAS</li> <li>• Biocontrol agents</li> </ul> Extension officer schemes in RMI (12 officers) and Tuvalu (9 officers) are incorporated into the national IAS teams to support project outputs. Training needs assessed and delivered on-island by project staff. | programme reporting showing integration of skills acquired into field practice. Workshops will be timed to precede country related activities so the best uptake of skills is achieved and put into practice. Years 2 to 4 of the project. |
| <b>2. Component 2: Strengthening institutional frameworks and capacities for IAS management</b>   |  |   |  |
| <b>Outcome 2.1:</b> Enhanced IAS surveillance and control strategies reduce introduction rates and contain populations below thresholds that endanger threatened and endemic species and their habitats in 4 countries:<br>IAS surveillance and control strategies can be relied on to reduce the risk posed by the introduction of new IAS and contain established IAS populations below thresholds that endanger threatened and endemic species and their habitats in 4 countries |  |   |  |
| 2.1.1 Baseline studies of the distribution and status of invasive species, and programme for detecting change, completed in four countries  | 2.1.1. Baseline surveys on land and near shore habitats. Assessment of threats from IAS and setting priorities for IAS control, eradication and non-action. Based on results of surveys and existing information, design surveillance methods for high priority IAS.   | Road based surveys for weeds in the three main islands of Tonga.<br><br>At least four terrestrial weed management plans underway as determined from survey and integrated into restoration projects for Tonga.<br><br>Weed and other high risk IAS surveillance programmes operational in all four countries.<br><br>Biodiversity baseline surveys (marine and terrestrial) added to as required (all four countries) and used to identify IAS priorities and further biodiversity reserves including those requiring restoration work in Tonga, Niue, RMI and Tuvalu. This work will also inform national            | Peer reviewed reports on pest status and options for mitigation. Outreach programmes convey results including posting on the Battlers series website (Y3Q1).   |

| OUTPUTS  | ACTIVITIES  | DELIVERABLES  | BENCHMARKS  |
|--|---|---|---|
|  |   | <p>pest list databases (geo-referenced) and the identification of new IAS which should be targeted (all countries). Results of these surveys will inform surveillance and monitoring changes work.</p> <p>Tuvalu – conduct a study to determine the economic impact of IAS and use the results to inform NISSAP iterations.</p>   |   |
| 2.1.2 Effective protocols for assessing risk and prioritising IAS for management developed and implemented in four countries                           | 2.1.2. Analyse existing and new data generated by the project on IAS distribution and associated pathways / risks. Research and design methods of detection and monitoring methods for high (ecological ) risk IAS including marine IAS | <p>Risk assessment protocols designed to identify IAS (marine and terrestrial) threats and mitigation identified for inclusion into relevant planning (all countries).</p> <p>IAS (marine and terrestrial) surveillance programmes designed, tested and operational in all four countries.</p> <p>Risk profiles (pathways, mitigation plans, rank order of species) for the most important IAS threats completed for all four countries. Marine IAS risk profiles particularly focussed on protected areas.</p> | Peer reviewed protocols and risk profiles produced and communicated to relevant clients. Surveillance in place and results tabled with relevant authorities (Y3Q2). |
|  | Collecting geo referenced baseline information delimiting IAS distribution. Community consultation, writing plans, training villagers.  | <p>Recovery and restoration plans for village based conservation areas in Niue (n = 7) plus Huvalu CA underway (largely involving IAS management such as YCA).</p> <p>Species led weed control plans: Tonga – four weed species, 3 site led, Tuvalu – three weed species.</p> <p>Remodel at least two existing restoration projects in Tonga and commission two new ones employing usual consultative processes and technical input from the PRISMSS.</p>   | Peer reviewed plans written and communicated to relevant users (Y3Q2).  |
| <b>3. Component 3: Implementing programmes for IAS risk reduction, Early Detection and Rapid Response (EDRR), eradication, control and restoration</b> |   |   |   |
| <b>Outcome 3.1: Biosecurity risks are reduced for the highest risk pathways and IAS</b>  |   |   |   |
| 3.1.1 Priority risk mitigation measures are identified and necessary actions taken to reduce or eliminate risks in the four countries                  | Required research undertaken, consultations regarding mitigation measures, publication activities.  | <p>IAS pathways (across national boundaries and inter-island) identified, assessed, reported and protocols for their mitigation written for all countries. Resources produced – “Battler” series as necessary.</p> <p>Marine IAS mitigation plan written for RMI.</p>   | IAS pathways reports for all four countries and published on line and hard copy (e.g. Battler Series) (Y2Q4).   |

| OUTPUTS   | ACTIVITIES  | DELIVERABLES  | BENCHMARKS  |
|---|---|---|---|
|   |   | Quarantine training to improve national border and inter-island biosecurity carried out for four participating countries.   | Peer reviewed plans (Y2Q4).<br><br>Training workshops held and country customisation mission consolidating the workshop training (Y2Q4).  |
| 3.1.2 EDRR protocols operational in four participating countries (including surveillance)                               | Analyses of new and existing IAS data and pathway / vector information are used to design surveillance programmes for marine and terrestrial locations. Testing fit-for-purpose methodology and necessary training undertaken.<br><br>EDRR – priority lists developed for each country and response protocols developed, customised as required for each countries’ circumstance, training needs assessed, training carried out including simulation exercises. | EDRR plans and protocols written for all high risk species for each country; related EDRR training completed; required specialist equipment bought; simulation exercises run for key IAS and assessments completed. | For each country: EDRR plans; priority species lists; EDRR training workshop and in-country customisation visits; simulation exercises for priority EDRR species and assessments of efficacy of EDRR arrangements (Y3Q1). |
| <b>Outcome 3.2: Impacts of priority IAS species (identified in component 2) reduced</b>                                 |   |   |   |
| 3.2.1 At least two sustainable IAS control programmes are established in each of at least three participating countries | Weed management plans (site led and species led) are designed which are informed by baseline information and supported by relevant training provided by the PRISMSS.  | Tonga – at least 4 species led weed management projects<br><br>At least four biocontrol weed programmes researched and established including at least Tonga (three species) and Niue (taro vine).                   | Weed management plans implemented – M and E data show progress (Y3Q1).  |

| OUTPUTS   | ACTIVITIES  | DELIVERABLES   | BENCHMARKS   |
|---|---|--|--|
|   | <p>Field work related to weed management or eradication using agri chemicals. Monitoring activities.</p> <p>Training courses designed and run.</p>                            | <p>Tonga – at least three site led weed management or eradication programmes</p> <p>Tuvalu – economic assessment of marine and terrestrial IAS written.</p> <p>At least one long term vertebrate control programme established including feral pigs in Niue.</p> <p>Yellow Crazy Ant control programmes on at least Funafuti Atoll and Huvalu Forest Conservation Area, Niue.</p>  | <p>Peer reviewed report of the economic impact of IAS in Tuvalu (Y4Q1)</p> <p>Bio control workshop held for relevant country project staff – planned, run and assessed. Post workshop in-country customisation visits made (Y3Q1).</p> <p>Operational records for pig control show reduction to levels at which their ecological impact is considered to be insignificant threatening biodiversity assets (Y4Q4).</p> <p>YCA control plans written and peer reviewed, posted on the internet and monitoring shows at least containment of distribution (Y2Q4).</p> |
| 3.2.2 Successful eradications of priority species are completed on islands or island groups in at least two countries | <p>Rodent eradication feasibility and operational plans are negotiated and drawn up.</p> <p>Training workshops designed and run; customisation of training for individual</p> | <p>As above priority islands for rodent eradication identified in all four countries. Feasibility and operational plans written for at least 12 islets/islands (including 8 in RMI) over the four participating countries plus two “large” eradications (e.g. Latte Island in Tonga and the island country of Niue).</p> <p>At least 8 of these rodent eradications carried out, assessed and post operational monitoring regimes written and established. This includes</p> | <p>Feasibility and operational plans for the islands identified; post operation reports; eradication training workshops held (reported, assessed) and post workshop country</p>  |

| OUTPUTS   | ACTIVITIES  | DELIVERABLES  | BENCHMARKS   |
|---|---|---|--|
|   | <p>countries; on the job training consolidation.</p> <p>Field operations associated with eradication operations – bait distribution, monitoring and evaluation, reporting etc.</p>  | <p>protecting habitat for endangered species such as Ratak Imperial Pigeon.</p> <p><b>Details of the above follow:</b></p> <p>Tonga – at least 5 islets plus Late (about 2,000ha)</p> <p>Feasibility and operational plans written for cat and rodent eradication from Niue.</p> <p>RMI – three atolls – Lib, Mejit, Majuro (islands within – endangered Ratak pigeon recovery).</p> <p>Tuvalu – four eradication projects completed coupled with three sustainable management projects.</p> <p>Feasibility and operational plan written and carried out for identified key species led IAS eradications including (RMI) red vented bulbul, giant African land snail, green Anolis lizard.</p> <p>Training courses on methodology and protocols for eradication of IAS for all participating country NPC and similar staff from other PICTs and Territories as requested.</p> <p>Biosecurity gap analysis completed</p> | <p>customisation visits made (Y4Q4).</p>   |
| 3.2.3 At least two sites demonstrate measurable restoration outputs as described in restoration plans | <p>Biodiversity distributional and threats information (terrestrial and marine) is compiled and analysed to determine priority sites for continued and new restoration effort so that a representative protected natural area network is established.</p> | <p>Peer reviewed analyses reported for Tonga.</p> <p>At least two existing restoration programmes reviewed and reinstated including Toloa and Mt Talau (Tonga).</p> <p>At least two new restoration projects planned and started including Eua forest in Tonga.</p>   | <p>Threat analysis written for Tonga – peer reviewed and posted on Battler web site (Y2Q3).</p> <p>Restoration projects underway as described – data collected and</p> |

| OUTPUTS  | ACTIVITIES   | DELIVERABLES   | BENCHMARKS  |
|--|--|--|---|
|  |  | Two restoration projects in Tuvalu including islands identified in priority atolls above.<br>Awareness and outreach programmes are designed and implemented for each country.                                  | reported for at least Toloa and Mt Talau (Tonga) and from Tuvalu restoration sites (Y2Q4).  |
| <b>Component 4:</b> Establishing a Pacific islands regional support framework for IAS management   |  |  |   |
| <b>Outcome 4.1:</b> Sustainable support service comprised of Council of Regional Organisations in the Pacific (CROP) agencies and partners established and enabling four countries to respond to existing and potential IAS threats, and is up-scalable to at least the Pacific region |  |  |   |
| 4.1.1 Support Service supporting the three other components for the four countries and the region, including providing advice on NISSAP development and implementation as required, is operationalized   | PMU recruited. PSC and PILN committee meetings held. Country inputs sought and reported on the efficacy of the PRISMSS.<br><br>PRISMSS organised mentoring / coaching networks established mediated through the PILN. Training workshops run for prescribed priority skill sets. | PRISMSS fully operational and effective – peer mentoring support service in place. Project based technical advisory system in place.   | Country feedback solicited during reporting cycle demonstrates PRISMSS is meeting country expectations. (Y2Q2)  |
| 4.1.2 Sustainable financing mechanisms in place to support the establishment of a long-term Regional Support Service and national IAS management programs  | Negotiate and design terms of reference for a consultancy study of sustainable funding options.<br>Run the consultancy contract process.   | Options document for sustainable funding commissioned and delivered. Negotiated and informed decisions made on best options to pursue and plans made – with full endorsement of the SPREP Meeting as required. | Consultant report. (Y4Q2)<br>Recommendations for sustainable finance options made to SPREP and countries (Y4Q4).<br><br>Decisions and start to implementing options (Y5Q2)<br><br>Progress reports on options (Y5 Q3) |
| 4.1.3 Capacity developed in to systematically measure the  | Consulting end users and designing internet based  | Internet based IAS/ biosecurity data recording and reporting system on change of state fully operational and used by countries for   | Internet database system designed and   |

| <b>OUTPUTS</b>  | <b>ACTIVITIES</b>   | <b>DELIVERABLES</b>  | <b>BENCHMARKS</b>  |
|---|---|--|--|
| success of IAS management objectives as described in national, regional and international instruments   | system for recording IAS/ biosecurity M and E data fit for purpose – detecting changes and meeting reporting requirements.  | documenting changes in State of Environment with respect to IAS/ biosecurity.  | tested (Y2Q2) and being populated by project countries and other sources (Y3Q4), regularly used (which will be monitored) by country based colleagues (Y4Q1).  |
| 4.1.4 Regionally capable information system in place delivering case studies, guidelines, standard operating procedures and tools generated by components one to three; plus sex disaggregated data on women and youth participation in IAS/ biosecurity activities / outputs | Writing, designing and commissioning the production of the technical workshops and associated capacity building products (e.g. publications such as the Battler Series).Data collection method designed and any training (probably of NPC's) conducted. | Internet based information resource (plus hard copy as required) populated with publications (e.g. Battler Series) related to workshop topics and other capacity building activities including gender / youth participation. | Project related technical resource repository available on the internet Y1Q4. Use monitoring system and upgrade feedback loop system installed Y1Q4. Gender data system for at least participating countries in place by Y3Q2 and systematic reporting available by Y4Q1 |
| 4.1.5 Based on project outputs, new version of the “Guidelines” for Invasive Species Management in the Pacific (Guidelines) is produced and formally approved   | Contents of new Guidelines negotiated with partners of the PRISMSS. New case studies agreed and any changes to the guidelines drafted by colleagues.  | New version of the Guidelines produced with upgrades such as case studies and lessons learnt included plus any changes to the guidelines themselves as required and agreed by partners in the PRISMSS.                       | Guidelines produced – hard copy and e-copy on the internet based resource base (Y4Q4). Formally approved by the SPREP Meeting (Y5Q3)   |



*Appendix 7: Costed M&E plan*

| M&E activity  | Responsible Parties                                 | Budget from GEF (US\$) | Budget co-finance | Time Frame/Notes  |
|---|---|------------------------|-------------------|---|
| Inception Workshop  | Project Management Unit (PMU), UN Environment (UNE) | 30,000                 | 15,000            | Within 2 months of project start-up; under regional component budget – support services   |
| Inception Report  | PMU   |                        | 5,000             | 1 month after project inception meeting   |
| -Measurement of project<br>-baseline (scorecard) data<br>Collection (same format as reported in Section 2)<br>*all indicators will be measured by the appointed PMU team plus the SPREP IAS Advisor and the National Project Coordinators. The overall responsibility of the measurement of indicators will be with the Project Manager. Components 1 to 3 indicators will in addition be measured with support from country representatives. | Regional Project Coordinator, PMU/ Project team     | 0                      | 40,000            | Outcome indicators: start, mid and end of Project<br>Progress/perform. Indicators: Within 1 month of the end of reporting period i.e. on or before 31 January and 31 July (through progress reports)<br>Revised (verifying data reported in Section 2) baseline data collection: within the 1st year. |
| Project Steering Committee (PSC) Meetings meeting) and other meetings   | Regional Project Coordinator<br>PMU<br>UNE          | 100,000                | 40,000            | Face to face meetings will be held in the first year, midterm (post review) and in the final year – all other meetings will be virtual.   |
| Reports of PSC meetings   | Project Manager with inputs from partners           |                        | 15,000            | Six monthly or more frequently if other meetings held   |
| Monitoring visits to field sites and areas where project is active  | Project Manager<br>UNE*                             | 100,000                | 12,000            | 4 per year by the SPREP IAS Advisor – budget to come from project management travel.  |
| Communication of M&E actions  | SPREP   |                        | 20,000            | Ongoing   |
| Audit reports   | SPREP   | 17,500                 | 25,000            | Annual  |
| Mid Term Review   | UNE TM/Evaluation Office/ PMU                       | 60,000                 | 30,000            | At mid-point of project   |
| Terminal Evaluation   | UNE TM/ Evaluation Office PMU                       | 70,000                 | 50,000            | At project end  |
| <b>Total M&amp;E Plan Budget</b>  |   | <b>377,500</b>         | <b>252,000</b>    |   |

\*Note – the UN Environment / Task Manager will not be funded by the project during country visits.

*Appendix 8: Summary of reporting requirements and responsibilities*

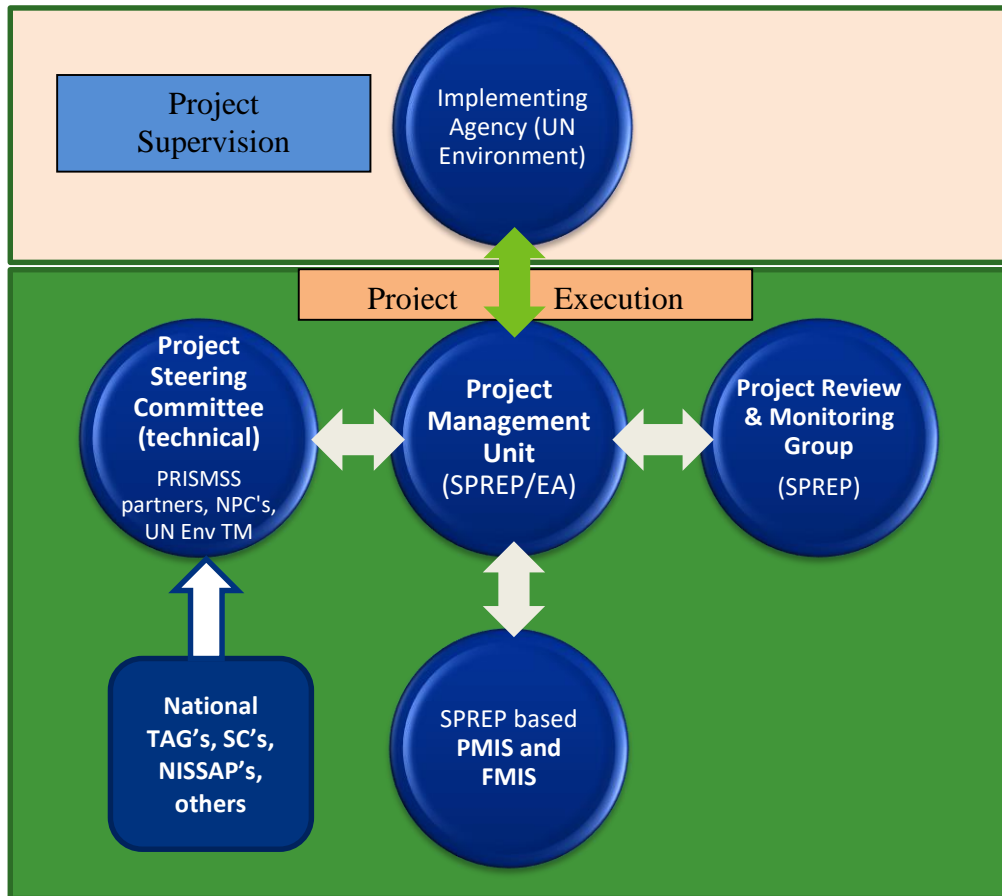
| <b>Reporting requirements</b>   | <b>Due date</b>  | <b>Format appended to legal instrument as</b>              | <b>Responsible Party</b>           |
|---|--|--|------------------------------------|
| Procurement plan (goods and services)   | 2 weeks before project inception meeting                         | N/A  | Project Coordinator                |
| Inception Report  | 1 month after project inception meeting                          | N/A  | Project Coordinator*               |
| Quarterly Expenditure Report (QER) with appropriate notes   | Quarterly on or before 30 April, 31 July, 31 October, 31 January | SPREP FMIS** and UN Environment designated format          | Project Coordinator                |
| Cash Advance request and details of anticipated disbursements (to be submitted in UNE designated format along with the expenditure reports) | Quarterly or When required                                       | SPREP FMIS and UN Environment designated format            | Project Coordinator                |
| Progress report   | Half-yearly on or before 31 January, 31 July                     | Appendix 10 of the PCA                                     | Project Coordinator                |
| Audited report for expenditures for year ending 31 December   | Yearly on or before 30 June                                      | N/A  | Executing partner to contract firm |
| Inventory of non-expendable equipment   | Yearly on or before 31 January                                   | Appendix 8A of PCA   | Project Coordinator                |
| Co-financing report (to be reported quarterly along with the GEF expenditure in the quarterly expenditure reports)                          | Yearly on or before 31 July                                      | Appendix 14 of PCA   | Project Coordinator                |
| Project implementation review (PIR) report  | Yearly on or before 15 July                                      | Appendix 11 of PCA   | Project Coordinator, PSC           |
| Minutes of steering committee meetings  | Twice Yearly   | N/A  | Project Coordinator                |
| Final report  | 2 months after project closure / technical completion            | Appendix 12 of the PCA                                     | Project Coordinator                |
| Final inventory of non-expendable equipment   | 2 months after project closure/ technical completion             | Appendix 12A of the PCA                                    | Project Coordinator                |
| Equipment transfer letter   | 2 months after project closure/ technical completion             | Appendix 8B of the PCA                                     | Project Coordinator                |
| Final expenditure statement   | 3 months from project completion date                            | Format to be provided by UN Environment /Evaluation Office | Project Coordinator                |
| Mid-term evaluation   | Midway through project   | N/A  | TM/EOU                             |
| Final audited report for expenditures of project  | 6 months from project completion date                            | N/A  | Executing partner to contract firm |
| Independent terminal evaluation report  | at the end of project or 6 months from project completion date   | Format to be provided by UN Environment /Evaluation Office | TM/EOU                             |

\*If the Project Coordinator is not appointed in time then the report will be written by the SPREP IAS Advisor

\*\*FMIS and PMIS – SPREP’s financial management and project management information systems respectively – GEF / WB compliant.

*Appendix 9: Decision-making flowchart and organisational chart*

This project will be operated under the supervision of UN Environment as Implementing Agency (IA), and SPREP as Executing Agency (EA) with guidance and inputs from the Project Steering Committee (PSC) which couples as a Technical Advisory Group, as depicted in the project's governance structure below.



**Key:**

PSC – project steering committee; SPC – Secretariat for the Pacific Community (now known as Pacific Community); IC – Island Conservation; Landcare NZ – Landcare Research New Zealand Ltd; Pacific BIOSECURITY – Pacific Biosecurity; NPC – National Project Coordinator; SPREP/EA – Secretariat for the Pacific Regional Environment Programme / Executing Agency; PMIS – Project Management Information System\* (SPREP based); FMIS – Financial Management Information System\* (SPREP based).

\*note – the associated systems and processes meet World Bank/GEF standards and protocols

Other notes:

Country representation is provided for by the National Project Coordinators (NPC) who will participate in the Project Steering Committee and its role (see Section 4 and below)

The Project Review and Monitoring Group (PRMG) is a standing committee residing in SPREP and acts as an oversight body ensuring that SPREP is meeting its contractual obligations at a high level rather than intervening in projects' operations (see below).

**Roles and responsibilities of each institution and administrative unit:****UN Environment's Ecosystem Division - Implementing Agency-IA**

- Provide consistent and regular Project oversight to ensure the achievement of Project objectives
- Liaise between the Project and the GEF Secretariat,
- Ensure that both GEF and UN Environment policy requirements and standards are applied to and are met (reporting obligations, technical, fiduciary, M&E)
- Ensure timely disbursement/sub-allotment of funds to the EA, based on the agreed legal documents
- Approve budget revision, certify fund availability and transfer funds
- Organize mid-term review and end of term evaluations
- Provide technical support and assessment of the execution of the Project
- Provide guidance if requested to main TORs/MOUs and subcontracts issued by the Project
- Follow-up with EA for progress, equipment, financial and audit reports
- Certify project operational completion
- Member of the Project Steering Committee (PSC)
- The above services will be provided via the assigned Task Manager located in Apia (SPREP campus) and supported by the UN Environment Asia/Pacific Regional Office, Bangkok and its Head Quarters Office, Nairobi.

**SPREP- Executing Agency-EA:**

SPREP will employ a Project Coordinator (PC) to perform the following functions on its behalf:

- Oversee Project execution in accordance with the project results framework and budget, the agreed work plan and reporting tasks.
- Support the Project Management Unit (PMU) in coordinating project activities at national and local levels.

- Provide technical expertise through the PMU's and SPREP's personnel and networks.
- Ensure technical quality of products, outputs and deliverables, including reports to UN Environment.
- Provide guidance and coordination to the PMU and national stakeholders (particularly NPC's) in Tonga, Niue, RMI and Tuvalu.
- Support logistical issues, e.g. through organization of meetings, training workshops and participation of technically qualified service providers to meetings.
- Support the PMU in regular Project reporting, including progress, financial and audit reporting to the IA.
- Chair the project steering committee.

**The Project Management Unit:** (PMU) will be located at SPREP, Apia Samoa and will consist of:

- The SPREP IAS Advisor: 5% of their time is in-kind support to the project from SPREP to oversee the project, manage project staff and SPREP administrative systems which support the project.
- The Project Manager: 14% of their time project management including preparation of procurement plans, terms of reference and procurement packages, management of consultant activities, management of output deliverables (86% of their time outside of project management providing technical support to project activities).
- The Project Coordinator: 16% of their time project management assistance including maintenance of records of all project-related documentation, knowledge management, compilation of financial reports, compilation and preparation of progress reports for the project and consultation with project stakeholders (84% of their time outside of project management providing technical management support to project activities).
- The PMU will share a Financial Officer with other SPREP projects for preparation of the financial reports.

**PMU roles comprise:**

- Ensure Project execution, including all technical aspects and the GEF Policy on Gender Equality
- Ensure Project governance and oversight of the financial resources from the GEF investment in collaboration with the third party who will manage the project funds locally
- Provide staff time and expertise in guiding and advancing the project
- Provide Project reporting according to the supervision plan
- Share all achievements and products of the project with all relevant stakeholders
- Ensure that consultants and project partner organizations deliver against their contracts and on time
- Organize the Steering Committee meetings and serve as its secretariat
- Overall management and implementation of the Project M&E framework to evaluate project performance

- Management of the flow of information from the field to the Project collaborators, and producing periodic monitoring reports
- Prepare and manage ToR, contracts and MoU with consultants and project partners using appropriate legal instruments. ToR and selection process will be done according with the project's work plan and budget and SPREP regulations.
- Do all payments related to the project as per request and coordination with the EA, its rules and regulations, and the project work plan and approved budget.
- Provide data for the project expenditure reports as per UNE templates, and provide support to the project coordinator in the elaboration of periodic expenditure reports.
- Undertake procurement of goods and services for the project and keep an updated inventory as per UN Environment templates
- Ensure that consultants and project partner organizations deliver against their contracts and in time (in collaboration with PMU)
- Provide support to the Project M&E activities.

**Pacific Regional Invasive Species Management Support Service (PRISMSS):** will be coordinated from SPREP, Apia and will consist of:

- SPREP IAS Adviser (45% of their time, in-kind support): Designing and validating PRISMSS structure and processes, promoting the service to potential partners, donors and users. Providing thematic technical advice, designing and delivering training courses and materials, field support and mentoring for NPC's and stakeholders.
- PRISMSS Associate (100% of their time, project funded, PRISMSS to fund after project ends): Coordination and administration of the PRISMSS.
- Project Manager (86% of their time, project funded services to project activities); providing thematic technical advice, designing and delivering training courses and materials, delivering management plans and feasibility studies, in-country field support and mentoring for NPC's and other country-based stakeholders.
- Project Coordinator (84% of their time, project funded services to project activities); providing management technical advice, designing and delivering training courses and materials, in-country management support and mentoring for NPC's and other country-based stakeholders.
- PRISMSS partners (financed by the project and partner's co-finance by providing services to project activities); providing thematic technical advice, designing and delivering training courses and materials, delivering management plans and feasibility studies, in-country field support and mentoring for NPC's and other country-based stakeholders.
- The PRISMSS will be sustained beyond the term of the project by institutionalising the PRISMSS Associate in SPREP with the financial support of committed and new partners engaged during project execution. The PRISMSS will initially focus on the common thematic areas within the four countries and which have been identified through gap analysis during project preparation consultations. As further technical capacity and resources are acquired with new partners within the PRISMSS, the requirements of support for the Project

Manager and Project Coordinator will correspondingly decrease, and the PRISMSS will become more independent, versatile and sustainable.

#### **Project Steering Committee (PSC)**

- The SPREP IS Adviser acts as Chairperson.
- The PM represents the PMU.
- The PC provides a service administration role.
- Its mission is to assess compliance with the objectives and results of the project and assist in meeting sustainability objectives.
- In practical terms the PSC is responsible for ensuring that the project meets goals described in the Project Results Framework by helping to balance conflicting priorities and resources. Conclusions and recommendations produced by the PSC will be taken into consideration by the PMU to improve implementation strategies, annual work plans and resources allocation budget and, when necessary, to adjust the project's Result Framework. This committee will meet twice a year, either physically or virtually.
- Overall coordination of the PSC will be the responsibility of SPREP and will involve representatives of the participating countries and PRISMSS partners where possible and relevant to the work plan.
- The first meeting of the PSC will serve to define its specific Terms of Reference and how it will operate. These decisions will be recorded and will describe the procedures related to the internal functioning of the committee, including the definition of any rules under which group's decision-making and actions to be carried out will be governed. This could include the following:
  - Formal designation of the main and alternate representatives of each member.
  - Approval of the functions and duties that the members of the Committee may have regarding the work to be done.
  - Quorum for any session is one with the presence of half plus one of the members or alternates.
  - The decisions will be made preferably by consensus but otherwise majority.
  - The detailed rules and procedures will be established in coordination with UN Environment at project start.

#### **Project Review and Monitoring Group (PRMG)**

- The PRMG is an institutionalized SPREP group entrusted with the tasks of being a resource group to provide guidance and comments to Project Managers for all SPREP projects throughout the project cycle; provide oversight function for projects, provide interim clearance before the concept is submitted to donors and final clearance before the project is sent to the Senior Management Team for final approval, provide implementation assistance and resolution of issues throughout the project cycle. It will resolve both technical and administrative issues that cannot be resolved at the level of the PMU. The PRMG also receives regular updates on the progress of the project. A critical role of the PRMG is to ensure that the quality and timeliness of the products delivered by the project is of an acceptable standard to both the donor and all partners.

**National Project Coordinators**

- Countries will appoint an NPC, who will represent each country on the PSC. The focal point will also be the person responsible for supervising and ensuring delivery of project activities at a national level.

**Co-financing entities**

- PRISMSS partners are providing co-financing consistent with their organisational mandates to progress their organisational goals and objectives for and within the Pacific region.

**Project Headquarters**

- The project headquarters will be located at the SPREP campus, Apia Samoa.



## *Appendix 10: Terms of Reference of Project Employees*

### **Project Manager (PM)**

1. Title of Position: Project Manager (PM)
2. Position Location: SPREP, Apia, Samoa
3. Type of Position: Internationally Recruited
4. Responsible to: Invasive Species Adviser (ISA), SPREP, Apia, Samoa
5. Duration of Service: 01 March 2019 – 28 February 2024
6. Functional relationships: Invasive Species Adviser, Project Coordinator, PRISMSS Associate, National Invasive Species Coordinators, UN Environment Task Manager, PRISMSS partners.
7. Supervises: Project Coordinator

### **8. Major Functions:**

- Project Management (14% Full Time Equivalent (FTE))
- Expert technical assistance (e.g. invasive species management and planning, monitoring and evaluation, weed management, eradication, site-led restoration, Early Detection, Rapid Response, biosecurity policy and legislation, inter-island biosecurity) for implementing the invasive species and biosecurity activities within the project. (86% FTE)
- **9. Context and Tasks:**

The PM acts as Project Manager and heads the Project Management Unit (PMU) at SPREP.

The Project Manager will assume the following responsibilities and duties:

#### Administrative (14% FTE)

- Work in close collaboration with UN Environment (Apia sub-regional office) to ensure project management meets GEF and UN Environment standards including:
  - Ensure that essential steps in the implementation of the Project Document are undertaken in a technically sound, timely and transparent fashion.
  - Operational management of the project according to the Project Document and SPREP procedures.
  - Organising and managing project activities according to the work plan in order to produce the outputs in a timely manner; updating and regular reviewing of the project work plan in collaboration with the SPREP ISA.
  - Assist the PC in the provision and review of all project reporting as described in the Project Document.
  - Assist the PC in compiling Cash Advance Requests.
  - Report to the SPREP ISA on a daily basis. In collaboration with the SPREP ISA submit to the UN Environment all progress and expenditure reports, Cash Advance Requests bi-annual reports, Project Implementation reviews, Quarterly Expenditure

Reports and other reports as may be requested/required by the UN Environment or the/ SPREP ISA.

- Managing the regional M&E system for regional and national components of the project, plus the risk mitigation plan in collaboration with the SPREP ISA
- Revise budgets and allocations to ensure FSP output delivery within budget
- In collaboration with the SPREP ISA, assist countries and SPREP in attracting further co-financing from international, regional and national sources to finance both regional and national project components of the project.
- Oversee public relations of the project
- Represent the PMU on the PSC.

#### Technical (86% FTE)

- Coaching, mentoring and provision of advice to NPCs to assist their country programmes in;
  - Invasive species management and planning.
  - Monitoring and evaluation.
  - Weed management.
  - Eradication.
  - Site-led restoration.
  - Early Detection, Rapid Response.
  - Biosecurity policy and legislation.
  - Inter-island biosecurity.
  - Assisting the development and reviewing terms of reference and the selection of sub-contractors, consultants and conduct procedures for sub-contracts
  - Assisting the countries and partners in developing and utilising linkages with other related projects – especially within the region
  - Sourcing relevant expertise from regional / international specialists and manage their inputs and deliverables as required by the project work plan, in order to produce regional deliverables in a timely manner and within budget
- Ensure technical quality of publications that are produced from the project
- Participate in external scientific meetings (conferences, seminars, workshops, and electronic networks) as required by their manager. Actively source new information which may add value to the project from these forums.
- Quality assurance of project training activities and outputs
- Highest technical standards are met in project delivery
- Ensures identified project social and environmental safeguards are met and gender considerations are considered and implemented in activities and deliverables

### ***10. Deliverables:***

The PM will be responsible for delivering the following outputs:

- Support provided for NPC and PC staff recruitment (year 1).
- PSC and PMU established and functioning.
- Project activities and outputs implemented efficiently to prescribed standards and on schedule.
- Annual work plan and budget produced in collaboration with the SPREP ISA and PC to be approved by the SC and UN Environment via the PIR process.
- Oversee the completion of all financial and technical reports, according to specifications in the project document, submitted on schedule and ready for approval.
- Ensure the timely transfer of GEF funds to countries.
- Ensure the highest standards for technical criteria of the terms of reference for consultants and technical experts.
- Monitoring and Evaluation Plan finalized and agreed with UN Environment, and implemented in cooperation with NEAs.
- Project objectives exceeded.
- Effective public relations.

### ***11. Contract duration***

The contract period will be five years, reviewed after 6 months and three years.

### ***12. Qualifications, Experience and Qualities Required***

- Graduate or higher degree in a technical field related to IAS and biosecurity.
- At least 10 years professional experience in practical invasive species and biosecurity management preferably some within the Pacific context.
- Proven ability to mentor, train and support others in project management and in the successful implementation of at least three management areas of Inter-island biosecurity and EDRR, management of weeds and agrichemicals, restoration, monitoring baselines and changes, biological control of weeds, eradication, awareness and outreach.
- Leading edge technical understanding of IAS and their impacts, field management practice, national frameworks needed to contain the spread of IAS in countries, and international frameworks required to stop the spread of IAS between countries.
- Project management experience, including technical and financial reporting, of internationally-funded projects with regional scope
- Excellent communications and personnel management skills and ability to work as part of, as well as lead, a multi-disciplinary and multi-cultural team.

- Excellent command of spoken and written English
- Ability to work with senior government officials, technical agencies, NGOs, and local communities, etc.
- Outstanding organizational and time management skills
- Excellent computer skills
- Capacity to mobilize resources
- Experience in participatory approach
- Self-motivated and disciplined, able to work in a leadership role.
- Willingness to travel frequently, sometimes under difficult conditions
- Understanding of gender equality.

### **Project Coordinator (PC)**

1. Title of Position: Project Coordinator (PC)
2. Position Location: SPREP, Apia, Samoa
3. Type of Position: Internationally Recruited
4. Responsible to: Project Manager, SPREP, Apia, Samoa
5. Duration of Service: 01 September 2019 – 28 February 2024
6. Functional relationships: Invasive Species Adviser, Project Manager, PRISMSS Associate, National Invasive Species Coordinators, UN Environment Task Manager, PRISMSS partners.

#### **7. Major Functions:**

- Project Coordination (16 % FTE)  
Technical Assistance to support systems and processes (e.g. planning, communication, reporting etc.) for implementing the invasive species and biosecurity activities within the project. (84% FTE)

#### **8. Context and Tasks:**

The PC acts is primarily responsible for coordination, facilitation, compilation of sub-project reports and support to the Project

The PC will assume the following responsibilities (duties):

##### Administrative (16% FTE)

- Working in close collaboration with the PM and SPREP ISA ensure project management is meeting SPREP standards. This includes:
  - Validation and compilation of reports from National Coordinators;
  - Preparation of project reporting for the Implementing Agency;

- Tracking progress through project and Executing Agency systems;
- Records are managed and maintained;
- Drafting procurement/contract documentation;
- Organising and managing project activities according to the work plan in order to produce the outputs in a timely manner; updating and regular reviewing of the project work plan;
- Coordinating and drafting biannual progress, quarterly financial reports and PIR reports;
- Monitoring and informing the PM on budgets and allocations to ensure FSP output delivery is within budget.

#### Technical (84% FTE)

- Provide technical assistance to the NPCs including:
  - Coaching, mentoring and provision of advice to NPCs to assist their country programmes in;
    - Planning, scheduling, tracking and coordination of activities.
    - Reporting.
    - Communication for awareness and outreach.
    - Drafting procurement/contract documentation.
    - Invasive species management technical advice.
  - Developing linkages with other related projects
- Coordinating the production of publications that result from the project
- Coordinating regional and national training.
- To act a secretary to the Project Management Unit, Project Steering Committee (PSC), and National Invasive Species (NISC) Coordinators Network:
  - Report to PM and the PSC any required modifications to the project work programme or problems in project execution on a timely basis;
  - Coordinate and prepare meetings, agendas and minutes of the PMU, PSC and the NISC.

#### **9. Deliverables:**

The PC will be responsible for delivering the following outputs:

- NPCs are providing quality project outputs, reports and communications as detailed in the Project Document
- Compiled biannual progress, quarterly financial reports and PIR reports
- PSC and PMU meetings convened and documents are prepared on time and distributed to relevant stakeholders
- Timely distribution of project funds to project partners, service providers etc.
- Support logistics for national operations

- Project activities coordinated efficiently and on time
- Drafting of annual work plan and budget to be approved by PSC
- Compile all project financial and technical reports, according to specifications in the project document, submitted on schedule for approval and uploaded to relevant portals.
- Timely transfers of GEF funds
- Terms of reference produced for consultants and technical experts
- All multi-country meetings convened successfully
- Project objectives supported
- Effective public relations

#### ***10. Contract duration***

The contract will be for a period of four and a half years, reviewed after six months and three years.

#### ***11. Qualifications, Experience and Qualities Required***

- Graduate degree in a technical field related to biodiversity/invasive species/environmental management/education or a related field
- Proven experience in mentoring, coaching and team building to improve capacity and capability.
- At least 5 years professional experience in project coordination, technical and financial reporting. GEF project reporting experience would be an advantage.
- A proven capacity in managing IAS operations, preferably in the Pacific context.
- Excellent communications skills, attention to detail and ability to work as part of a multi-disciplinary and multi-cultural team.
- Communications and outreach experience.
- Excellent command of spoken and written English, and numeracy skills.
- Excellent organizational and time management skills.
- Excellent computer skills including MS Office products, email, social media platforms, desktop publishing an advantage.
- Capacity to assist in mobilizing resources.
- Experience in participatory approach.
- Self-motivated, pro-active personality and track record of motivating others.
- Willingness to travel frequently, sometimes under difficult conditions.
- Understands gender equality.

## **Pacific Regional Invasive Species Management Support Service Associate**

1. Title of Position: PRISMSS Associate
2. Position Location: Apia, Samoa
3. Type of Position: Locally Recruited (open to Samoan nationals only)
4. Reports to: PRISMSS/SPREP Invasive Species Adviser
5. Duration of service: 01 March 2019 – 28 February 2024
6. Supervises: N/A
7. Major Functions:

Provides administrative and coordination support to the PRISMSS.

Ensures regional support information, materials and data is available, up to date and on time.

Assists with logistical arrangements for meetings (e.g. training workshops, SC meetings, PILN meetings etc.)

### *8. Context and Tasks*

The Associate will be stationed in SPREP, Apia, Samoa and be responsible for:

- Uploading regional invasive species reports, case-studies and information to the Battler Resource Base.
- Communicating with Pacific invasive species practitioners through the PILN network to provide information on opportunities and new resources in the region, update the Guidelines Reporting Database annually and receive requests for assistance for the PRISMSS. Maintaining communication channels between the PRISMSS partners including coordinating the logistics for meetings and correspondence.

Assist in the coordination of communications and outreach.

### *9. Deliverables*

- Battler Resource Base continues to grow and includes all relevant materials to support invasive species management in the Pacific, including project outputs and outputs from other Pacific countries and sources. It is accurately classified for ease of retrieval and is well promoted throughout the Pacific.
- Regular updates of trainings and news on invasive species is disseminated throughout the Pacific.
- The Guidelines Reporting Database is updated annually in consultation with Pacific nations and territories and results are disseminated.
- Requests to the PRISMSS are logged and are followed up by PRISMSS partners and outcomes documented.
- Correspondence, communications and meetings between PRISMSS partners is organised and logistics are sound.

### *10. Qualifications and Experience Required:*

- A bachelor's degree, preferably in a related environmental field or in communication.

- High attention to detail
- Self-motivated
- Computer literacy: MS Office products, email, social media platforms, desktop publishing an advantage.
- Expert communicator, pleasant personality, gets on with people, thorough, conscientious and self-motivated and organised.
- Experience with conservation programs or other environmental work an advantage. Team player who possesses excellent organisational and communications skills
- Expert knowledge of English

### **National Project Coordinator (NPC)**

1. Title of Position: National Project Coordinator (Team Manager)
2. Position Location: Tonga, Niue, RMI, Tuvalu
3. Reports to: Project Manager and country NISSAP TAG / local project steering committee
4. Date of TOR: 01 March 2019 – 25 December 2023
5. Supervises: national project administrative assistant, field operational teams drawn from Government agencies, contractors.
6. Major Functions:

All countries will appoint a NPC, who will be a national IAS expert. The NPC will be responsible for all project activities within their respective country.

- The NPC supervises the work of the national project support staff, national consultants and/or Task Teams, maintains communication with the national SC and PMU (SPREP based), provides technical guidance during project implementation and will ensure that budget and administrative procedures are consistent with national Government and SPREP/GEF rules and regulations.

#### *7. Context and Tasks*

The NPC acts as national Team Manager. The NPC will normally be housed at the National Executing Agency (NEA) and be responsible for:

- The operational management of the Full Scale Project within country, which includes planning, initiating and managing national project activities according to the project document and the procedures in the official UN Environment Operational Guidelines.
- Identification, hiring and supervision of national subject matter specialists and facilitators as required to efficiently carry out the tasks in a timely manner.
- Acting as central liaison point for IA and EA officials, i.e. UN Environment and SPREP officers, which includes co-organization and hosting of, as well as participation in meetings and teleconferences scheduled by the PMU and PSC (including active participation in and contribution to SC meetings)



- Acting as the technical focal point for national stakeholders; broaden national stakeholder base where relevant, e.g. by organizing national stakeholder consultations and facilitating national stakeholder meetings during which national projects will be reviewed
- Identification of additional national co-finance as the FSP develops
- Be responsible for proper implementation of the national Project M&E activities such as field surveys and reporting to SPREP
- Timely preparation and submission of reports

#### 8. *Deliverables*

- National Steering Committee (NISSAP TAG) established; regular meetings held and documented
- Terms of references and work plans for national Consultants and Sub-contractors prepared, agreed and monitored
- Technical and financial reports as well as other inputs that may be required for regional coordination by the PMU and/or PSC provided in timely fashion
- Experiences submitted to PMU for inclusion in Best Practice Guidelines or similar publications
- National Invasive Species Strategy and Action Plan reviewed/produced and submitted to authorities for formal approval as required
- Cost-recovery mechanisms produced and endorsed by stakeholders
- Risk analysis procedures produced and submitted to relevant stakeholders for endorsement
- National training programs developed and supported
- National Communications Strategy produced and implemented

#### 9. *Qualifications and Experience Required:*

- University degree or equivalent qualification in the environmental sciences or related field
- At least 5 years professional working experience
- Experience with managing projects of this scope.
- Experience with conservation programs, agriculture development or related environmental fields, including insights in the specifics of IAS management
- Understanding of gender equality and women's empowerment concept and principles
- Team player who possesses excellent organisational and communications skills
- Solid working knowledge of English
- Computer literacy; familiarity with MS Office

*Appendix 11: Co-financing commitment letters from project partners (separate file)*

*Appendix 12: Endorsement letters of GEF National Focal Points (separate file)*

*Appendix 13: Draft Procurement Plan*

| Project title and number: Strengthening national and regional capacities to reduce the impact of Invasive Alien Species on globally significant biodiversity in the Pacific. #9410 |  |  |              |            |   |
|--|--|--|--------------|------------|---|
| UN Environment Budget Line   |  | List of Non-Expendable Equipment required  | Budget (USD) | Year {1-5} | Brief description of anticipated procurement process {Note 2}   |
| 2100   | Sub-contracts (MOUs/LOAs for cooperating agencies) |  |              |            |   |
| 2101   | Niue   | Vehicle for transporting materials, equipment and people to complete project activities of invasive species surveys, eradications, control and restoration, no alternative available. Four wheel drive required. Activities cannot be completed without the vehicle. | 50,000       | Y 1        | The procurement process will be equivalent of the SPREP procurement system. The procurement will be selected on best value for money. |
| 2012   | RMI  | Vehicle for transporting materials, equipment and people to complete project activities of invasive species surveys, eradications, control and restoration, no alternative available.  | 25,000       | Y1         | The procurement process will be equivalent of the SPREP procurement system. The procurement will be selected on best value for money. |
| 2013   | TONGA  | Vehicle for transporting materials, equipment and people to complete project activities of invasive species surveys, eradications, control and restoration, no alternative available. Four wheel drive required.   | 50,000       | Y1         | The procurement process will be equivalent of the SPREP procurement system. The procurement will be selected on best value for money. |
| GRAND TOTAL  |  |  | 100,000      | Y1         |   |

The need to procure vehicles for this project is essential. The ability of the respective government agencies to provide the vehicles as part of their Co-financing is severely limited by their respective financial constraints. These four small island developing states are amongst the poorest in the world. Niue, for instance is the smallest sovereign nation in the world, with a GDP of less than \$20 million and a population of approximately 1500. Tonga is the highest ranking of the four at number 201 with a GDP of \$435 million (0.0005% of the World's GDP in 2016), followed by RMI at number 207 with a GDP of \$209 and Tuvalu at 211 is the lowest on the list with a GDP of \$38 million. Niue does not even feature on this list.

This is an extra ordinary situation with government agency infrastructure at an extremely basic level in all 4 participating countries. The vehicles included within the project are not for Project Management, they are essential for physically completing the work programme, in that they are required for the daily transportation of workers, equipment and materials to the work sites geographically dispersed throughout the countries. There are no other viable transport options to achieve this. Even daily hired transport would not permit herbicides, toxins, fuel etc. to be carried, nor will hired transport access the tracks required to be negotiated to reach the sites, particularly in Tonga and Niue. The cost of 10,000/annum for Tonga and Niue and 5,000/annum for RMI is a very reasonable cost, particularly when the outreach and awareness potential with vehicles marked up promoting the management of invasive species is considered.

The ability to successfully manage the issue is dependent on an ability to access the sites in a timely and effective way. The situation is extra ordinary, the need is critical, the potential for added value is significant and with proper maintenance the life of the vehicle will be sustained well beyond the life of the project adding to the profound and sustained impact that the project will have.

Appendix 14: Environmental, Social and Economic Review Note (ESERN)

## I. Project Overview

|                                |   |                |     |
|--------------------------------|---|----------------|-----|
| Identification                 | 9410  |                |     |
| Project Title                  | Project preparation proposal for “Strengthening national and regional capacities to reduce the impact of Invasive Alien Species on globally significant biodiversity in the Pacific”  |                |     |
| Managing Division              | Ecosystems Division   |                |     |
| Type/Location                  | Regional / Pacific sub-region   |                |     |
| Region                         | Asia Pacific  |                |     |
| List Countries                 | Tonga, Niue, Republic of Marshall Islands, Tuvalu; Pacific Islands Countries and Territories  |                |     |
| Project Description            | <p>This project will provide proof of concept for a mechanism to tackle Invasive Alien Species mitigation and improve biosecurity in the Pacific Island countries and Territories. This mechanism involves creating a regional technical support service for IAS management, control and eradication and biosecurity improvement based at the Executing Agency (Secretariat for the Pacific Regional Environment Programme), Apia, Samoa. IAS and Biosecurity work with four participating countries will model how this mechanism will work.</p> <p>National programmes in Tonga, Niue, Republic of Marshall Islands and Tuvalu will be implemented using the Pacific Regional Invasive Species Management Support Service set up under the project (effectively a continuation of the role SPREP’s IAS programme has provided since 1998). Specifically, the PRISMSS will provide training (e.g. eradication methods, agri-chemical use etc.), technical resource centre and on-going mentoring for country based project staff while they implement their work programmes. The administrative structure of the project has been set up to maximise the chances on sustainability and ensure gender equity.</p> |                |     |
| Estimated duration of project: | 60 months   |                |     |
| Estimated cost of the project: | Cost of project   | US\$28,429,646 |     |
|                                | Cost to the GEF Trust fund  | US\$6,252,489  | 22% |
|                                | Cofinance   | US\$22,177,157 | 78% |

## II. Environmental Social and Economic Screening Determination

### A. Summary of the Safeguard Risks Triggered

| Safeguard Standard Triggered by the Project  | Impact of Risk <sup>11</sup> (1-5) | Probability of Risk (1-5) | Significance of Risk (L, M, H) |
|--|------------------------------------|---------------------------|--------------------------------|
| SS 1: Biodiversity, natural habitat and Sustainable Management of Living Resources     | 1                                  | 1                         | L                              |
| SS 2: Resource Efficiency, Pollution Prevention and Management of Chemicals and Wastes | 1                                  | 1                         | L                              |
| SS 3: Safety of Dams   | n/a                                |                           |                                |
| SS 4: Involuntary resettlement   | 1                                  | 1                         | L                              |
| SS 5: Indigenous peoples   | 1                                  | 1                         | L                              |
| SS 6: Labor and working conditions   | 1                                  | 1                         | L                              |
| SS 7: Cultural Heritage  | 1                                  | 1                         | L                              |
| SS 8: Gender equity  | 1                                  | 1                         | L                              |
| SS 9: Economic Sustainability  | 2                                  | 2                         | M                              |
| Additional Safeguard questions for projects seeking GCF-funding (Section IV)           |                                    |                           |                                |

**B. ESE Screening Decision<sup>12</sup>** (Refer to the UNEP ESES Framework (Chapter 2) and the UNEP's ESES Guidelines.)

Low risk ☒ Moderate risk ☐ High risk ☐ Additional information required ☐

**C. Development of ESE Review Note and Screening Decision:**

Prepared by: Name: \_\_\_\_\_ Date: 2 April 2018

Safeguard Advisor: Name: \_\_\_\_\_ Date: \_\_\_\_\_

Project Manager: Name: \_\_\_\_\_ Date: \_\_\_\_\_

**D. Recommended further action from the Safeguard Advisor:**

<sup>11</sup> Refer to UNEP Environment, Social and Economic Sustainability (ESES): Implementation Guidance Note to assign values to the Impact of Risk and the Probability of Risk to determine the overall significance of Risk (Low, Moderate or High).

<sup>12</sup> **Low risk:** Negative impacts negligible: no further study or impact management required.

**Moderate risk:** Potential negative impacts, but less significant; few if any impacts irreversible; impact amenable to management using standard mitigation measures; limited environmental or social analysis may be required to develop a ESEMP. Straightforward application of good practice may be sufficient without additional study.

**High risk:** Potential for significant negative impacts, possibly irreversible, ESEA including a full impact assessment may be required, followed by an effective safeguard management plan.

### III. ESES Principle and Safeguard checklist

(Section III and IV should be retained in UNEP)

| Precautionary Approach   |
|--|
| The project will take precautionary measures even if some cause and effect relationships are not fully established scientifically and there is risk of causing harm to the people or to the environment.   |
| Human Rights Principle   |
| The project will make an effort to include any potentially affected stakeholders, in particular vulnerable and marginalized groups; from the decision making process that may affect them.   |
| The project will respond to any significant concerns or disputes raised during the stakeholder engagement process.   |
| The project will make an effort to avoid inequitable or discriminatory negative impacts on the quality of and access to resources or basic services, on affected populations, particularly people living in poverty or marginalized or excluded individuals or groups. <sup>13</sup> |

| Screening checklist  | Y/N/<br>Maybe | Comment  |
|--|---------------|--|
| <b>Safeguard Standard 1: Biodiversity, natural habitat and Sustainable Management of Living Resources</b>  |               |  |
| Will the proposed project support directly or indirectly any activities that significantly convert or degrade biodiversity and habitat including modified habitat, natural habitat and critical natural habitat? | N             | Project will significantly improve biodiversity and its habitat                            |
| Will the proposed project likely convert or degrade habitats that are legally protected?   | N             | Many legally protected habitats will be improved with the project's activities and outputs |
| Will the proposed project likely convert or degrade habitats that are officially proposed for protection? (e.g.; National Park, Nature Conservancy, Indigenous Community Conserved Area, (ICCA); etc.)           | N             | As above   |
| Will the proposed project likely convert or degrade habitats that are identified by authoritative sources for their high conservation and biodiversity value?  | N             | As above   |

<sup>13</sup> 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.

|   |   |  |
|---|---|--|
| Will the proposed project likely convert or degrade habitats that are recognized- including by authoritative sources and /or the national and local government entity, as protected and conserved by traditional local communities?   | N | As above   |
| Will the proposed project approach possibly not be legally permitted or inconsistent with any officially recognized management plans for the area?  | N | Consistency ensured during the PPG consultation process  |
| Will the proposed project activities result in soils deterioration and land degradation?  | N | Improvements expected with activities and outputs  |
| Will the proposed project interventions cause any changes to the quality or quantity of water in rivers, ponds, lakes or other wetlands?  | N | As above   |
| Will the proposed project possibly introduce or utilize any invasive alien species of flora and fauna, whether accidental or intentional?   | N | Central focus of the project is to mitigate impacts and risks of further IAS in-country  |
| <b>Safeguard Standard 2: Resource Efficiency, Pollution Prevention and Management of Chemicals and Wastes</b>   |   |  |
| Will the proposed project likely result in the significant release of pollutants to air, water or soil?   | N | Toxin use for control and eradication operations, which will by definition be targeted, will observe strict Standard Operating Protocols meeting industry standards such as in New Zealand, which ensure zero or minimal risks of pollution and impacts on non-target species. |
| Will the proposed project likely consume or cause significant consumption of water, energy or other resources through its own footprint or through the boundary of influence of the activity?   | N | Insignificant use of energy, water or other resources.   |
| Will the proposed project likely cause significant generation of Green House Gas (GHG) emissions during and/or after the project?   | N | As above   |
| Will the proposed project likely generate wastes, including hazardous waste that cannot be reused, recycled or disposed in an environmentally sound and safe manner?  | N | As above   |
| Will the proposed project use, cause the use of, or manage the use of, storage and disposal of hazardous chemicals, including pesticides?   | Y | As above (ref SOPs) – risks from this source will be minimal to none   |
| Will the proposed project involve the manufacturing, trade, release and/or use of hazardous materials subject to international action bans or phase-outs, such as DDT, PC Biosecurity and other chemicals listed in international conventions such as the Stockholm Convention on Persistent Organic Pollutants or the Montreal Protocol? | N | None of these categories of toxins will be used in this project  |

|  |   |   |
|--|---|---|
| Will the proposed project require the procurement of chemical pesticides that is not a component of integrated pest management (IPM) <sup>14</sup> or integrated vector management (IVM) <sup>15</sup> approaches? | Y | Pest animal eradications may use a single intervention such as distributing toxin (safely) whereas weed control or eradication will use IPM approaches. |
| Will the proposed project require inclusion of chemical pesticides that are included in IPM or IVM but high in human toxicity?   | N | All toxins used will be human safe.   |
| Will the proposed project have difficulty in abiding to FAO's International Code of Conduct <sup>16</sup> (ICC) in terms of handling, storage, application and disposal of pesticides?                             | N | The SOP's that will be used will easily meet FAO's ICC  |
| Will the proposed project potentially expose the public to hazardous materials and substances and pose potentially serious risk to human health and the environment?   | N | Most toxin use will be in remote areas far removed from human contact   |
| <b>Safeguard Standard 3: Safety of Dams</b>  |   |   |
| Will the proposed project involve constructing a new dam(s)?   | N |   |
| Will the proposed project involve rehabilitating an existing dam(s)?   | N |   |
| Will the proposed project activities involve dam safety operations?  | N |   |
| <b>Safeguard Standard 4: Involuntary resettlement</b>  |   |   |
| Will the proposed project likely involve full or partial physical displacement or relocation of people?  | N |   |
| Will the proposed project involve involuntary restrictions on land use that deny a community the use of resources to which they have traditional or recognizable use rights?                                       | N |   |
| Will the proposed project likely cause restrictions on access to land or use of resources that are sources of livelihood?  | N |   |
| Will the proposed project likely cause or involve temporary/permanent loss of land?  | N |   |
| Will the proposed project likely cause or involve economic displacements affecting their crops, businesses, income generation sources and assets?  | N |   |
| Will the proposed project likely cause or involve forced eviction?   | N |   |

<sup>14</sup> "Integrated Pest Management (IPM) means the careful consideration of all available pest control techniques and subsequent integration of appropriate measures that discourage the development of pest populations and keep pesticides and other interventions to levels that are economically justified and reduce or minimize risks to human health and the environment. IPM emphasizes the growth of a healthy crop with the least possible disruption to agro-ecosystems and encourages natural pest control mechanisms <http://www.fao.org/agriculture/crops/thematic-sitemap/theme/pests/ipm/en/>

<sup>15</sup> "IVM is a rational decision-making process for the optimal use of resources for vector control. The approach seeks to improve the efficacy, cost-effectiveness, ecological soundness and sustainability of disease-vector control. The ultimate goal is to prevent the transmission of vector-borne diseases such as malaria, dengue, Japanese encephalitis, leishmaniasis, schistosomiasis and Chagas disease." ([http://www.who.int/neglected\\_diseases/vector\\_ecology/ivm\\_concept/en/](http://www.who.int/neglected_diseases/vector_ecology/ivm_concept/en/))

<sup>16</sup> Find more information from [http://www.fao.org/fileadmin/templates/agphome/documents/Pests\\_Pesticides/Code/CODE\\_2014Sep\\_ENG.pdf](http://www.fao.org/fileadmin/templates/agphome/documents/Pests_Pesticides/Code/CODE_2014Sep_ENG.pdf)

|   |   |   |
|---|---|---|
| Will the proposed project likely affect land tenure arrangements, including communal and/or customary/traditional land tenure patterns negatively?  | N |   |
| <b>Safeguard Standard 5: Indigenous peoples<sup>17</sup></b>  |   |   |
| Will indigenous peoples be present in the proposed project area or area of influence?   | Y | Most of the land and sea included in the project is traditionally owned   |
| Will the proposed project be located on lands and territories claimed by indigenous peoples?  | N | As above  |
| Will the proposed project likely affect livelihoods of indigenous peoples negatively through affecting the rights, lands and territories claimed by them?   | N |   |
| Will the proposed project involve the utilization and/or commercial development of natural resources on lands and territories claimed by indigenous peoples?  | N |   |
| Will the project negatively affect the development priorities of indigenous peoples defined by them?  | N |   |
| Will the project potentially affect the traditional livelihoods, physical and cultural survival of indigenous peoples?  | Y | Project is expected to positively affect these attributes.  |
| Will the project potentially affect the Cultural Heritage of indigenous peoples, including through the commercialization or use of their traditional knowledge and practices?   | Y | Project is expected to positively affect cultural heritage by improving ecosystem services provided by native biodiversity. No impacts on traditional knowledge, practices and their commercialization anticipated. |
| <b>Safeguard Standard 6: Labour and working conditions</b>  |   |   |
| Will the proposed project involve the use of forced labour and child labour?  | N |   |
| Will the proposed project cause the increase of local or regional un-employment?  | N |   |
| <b>Safeguard Standard 7: Cultural Heritage</b>  |   |   |
| Will the proposed project potentially have negative impact on objects with historical, cultural, artistic, traditional or religious values and archaeological sites that are internationally recognized or legally protected? | N |   |
| Will the proposed project rely on or profit from tangible cultural heritage (e.g., tourism)?  | N |   |
| Will the proposed project involve land clearing or excavation with the possibility of encountering previously undetected tangible cultural heritage?  | N |   |
| Will the proposed project involve in land clearing or excavation?   | N |   |
| <b>Safeguard Standard 8: Gender equity</b>  |   |   |
| Will the proposed project likely have inequitable negative impacts on gender equality and/or the situation of women and girls?  | N | Gender is discussed in Section 3.18 and no negative impacts are predicted. The project will support the integration of  |

<sup>17</sup> Refer to the Toolkit for the application of the UNEP Indigenous Peoples Policy Guidance for further information.



|  |   |   |
|--|---|---|
|  |   | gender considerations across activities and deliverables  |
| Will the proposed project potentially discriminate against women or other groups based on gender, especially regarding participation in the design and implementation or access to opportunities and benefits?   | N | As above  |
| Will the proposed project have impacts that could negatively affect women's and men'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?   | N | As above  |
| <b>Safeguard Standard 9: Economic Sustainability</b>   |   |   |
| Will the proposed project likely bring immediate or short-term net gain to the local communities or countries at the risk of generating long-term economic burden (e.g., agriculture for food vs. biofuel; mangrove vs. commercial shrimp farm in terms of fishing, forest products and protection, etc.)? | N | Long-term net economic benefits are expected, provided that institutional or Government and local (e.g. village, CSO) support meets expectations generated during the development of the project and expands during its implementation. This provision is the reason for the "M" rating above (Section 2 of the ESERN). |
| Will the proposed project likely bring unequal economic benefits to a limited subset of the target group?  | N | Long-term net economic benefits are expected to be provided equitably to all sub-sets of the communities  |

#### IV. Additional Safeguard Questions for Projects seeking GCF-funding

|   |     |  |  |
|---|-----|--|--|
| <b>Community Health, Safety, and Security</b>   |     |  |  |
| Will there be potential risks and negative impacts to the health and safety of the Affected Communities during the project life-cycle?  | N/A |  |  |
| Will the proposed project involve design, construction, operation and decommissioning of the structural elements such as new buildings or structures?   | N/A |  |  |
| Will the proposed project involve constructing new buildings or structures that will be accessed by public?   | N/A |  |  |
| Will the proposed project possibly cause direct or indirect health-related risks and impacts to the Affected Communities due to the diminution or degradation of natural resources, and ecosystem services? | N/A |  |  |
| Will the proposed project activities potentially cause community exposure to health issues such as water-born, water-based, water-related, vector-borne diseases, and communicable diseases?                | N/A |  |  |

|  |     |  |  |
|--|-----|--|--|
| In case of an emergency event, will the project team, including partners, have the capacity to respond together with relevant local and national authorities?                | N/A |  |  |
| Will the proposed project need to retain workers to provide security to safeguard its personnel and property?  | N/A |  |  |
| <b>Labour and Supply Chain</b>   |     |  |  |
| Will UNEP or the implementing/executing partner(s) involve suppliers of goods and services who may have high risk of significant safety issues related to their own workers? | N/A |  |  |

*Appendix 15: Tracking Tools (separate file)*

*Appendix 16: Responses to GEF Scientific and Technical Advisory Panel comments*

|  | <b>STAP Review Comments</b>  | <b>Proponents' response</b>  |
|--|--|--|
|  | Overall, STAP feels that this regional project for the Pacific Islands has clear global environmental benefits, and that the objectives, outcomes and outputs are logical. It is a well-written project that builds on past learning and experience from prior efforts in this area.   | The project document has followed carefully the structure and content of the PIF having confirmed the costed and detailed work programmes with the countries and partners. The links to the relevant prior and concurrent efforts in the area are made explicit in the project document.   |
|  | However, STAP cautions that the project may be somewhat overambitious in that it promises to do too much with 18 outputs in 4 countries in five years, including policy reform. STAP therefore recommends that the PPG include an assessment of the institutional match between the complexity of the project and the capacities in place to implement it. | The extensive consultation with the countries resulted in excellent buy-in and ownership by countries with all agencies attending meetings and engaging in discussions. Consultations revealed that the legislative and procedural standards in countries were better than expected and commitment by countries with, for example, Tuvalu and RMI committing extension staff to the project – one person per island/atoll. Countries were also willing to commit significant co-finance/in-kind support of core Government staff to the project which should maximize the chances of producing the outputs and securing sustainability. The Pacific Regional Invasive Species Management Support Service established in Component 4 will provide a mentoring, cohesive and comprehensive technical support service capturing the specialist skill-set of the partners for highly technical activities such as bio-control, M and E and eradication and these will be backed up with purpose-designed training workshops with follow-up country visits to customize the lessons learned to the countries' particular situation. The PRISMSS will work closely with the NISSAP TAG's ensuring they have technical capacity to run national projects. This will be facilitated by the NPC's and PMU staff who will be in regular and frequent contact including regular face to face meetings via country visits by the PC and PILN meetings. Notwithstanding the above the PRISMSS and project review process will carefully monitor the technical capacity of countries as the project rolls out to ensure that the work programme is not over-ambitious. |
|  | A minor suggestion is to move 1.1.4 and 1.1.5 from the 1. Institutional Strengthening component to the 3. Implementing component.  | <i>Status quo</i> retained because 1.1.4 is more referring to the NISSAP-TAG (technical advisory group) and national project management process being set up, albeit it is agreed it could have been migrated to Component 3. Similarly, 1.1.5 is referring to the process of establishing trained field operatives familiar with industry specifications best practices and Standard Operating Procedures. The actual activities and outputs associated with these are described/accounted for in Component 3.  |
|  | Finally STAP suggests that the project may have greater overall impact with a clearer title such as "Eradicating rats, pigs and weeds on SIDs"   | With the extensive period that it has taken to design, negotiate and draw up this project its branding has used the same title and, with other projects in train with similar topics/titles, it was felt it wisest to stick with the original title and branding to avoid confusion in the countries and agencies. Further, a large portion of the project is about developing capacity in-country and across the region to respond to the challenges presented by IAS and allied biosecurity and securing the aforesaid sustainably. In that sense, the project goes beyond mere eradication of specific species and enters the domain of governance through policy and regulatory frameworks. It is in this regard that it is felt that using a title like this would not properly represent the project's purposes.   |

Appendix 17: Responses to GEFSEC comments

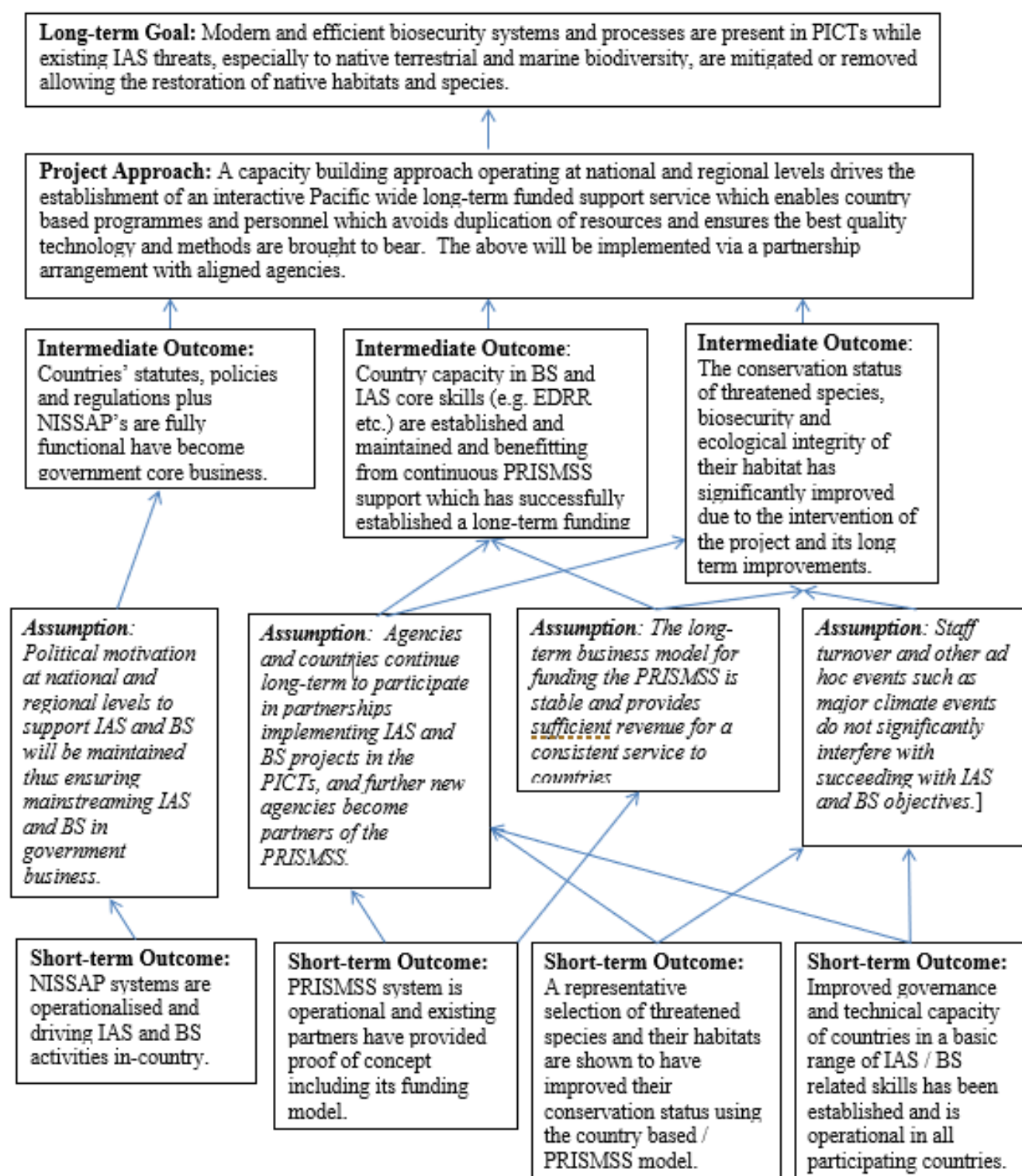
Note – updated project co-financing and cost figures now included – not original figures from the Project Identification Form

| PIF Review          |   |  |  |
|---------------------|---|--|--|
| Review Criteria     | Questions   | Secretariat Comment*   | Agency Response  |
| Project Consistency | 1. Is the project aligned with the relevant GEF strategic objectives and results framework? <sup>18</sup>   | October 4, 2016<br>Yes, thank you for the revisions.<br>During PPG, please consider adding process indicators for component 3.2 to accompany the species population numbers to examine the effectiveness of the interventions. The actual eradication could be an indicator itself. Some GEF projects while effective in their interventions have difficulty measuring changes in target populations during lifetime of the project. | All eradication projects will follow Standard Operating Procedures which includes monitoring target, non-target and beneficiary species. Formal success of an eradication may or may not be possible depending on the timing of field operations. Generally, two life cycles of the target IAS is used as the time frame to sample presence/ absence such that if zero results occur over this period then the eradication is deemed successful. Otherwise it may be necessary to use the operation itself plus reporting as the indicator of work done.   |
|                     | 2. Is the project consistent with the recipient country's national strategies and plans or reports and assessments under relevant conventions?                                |  |  |
| Project Design      | 3. Does the PIF sufficiently indicate the drivers <sup>2</sup> of global environmental degradation, issues of sustainability, market transformation, scaling, and innovation? | October 4, 2016<br>Yes. Please give the question of financial sustainability of project interventions a strong focus during PPG.   | Sustainability has been tackled at two levels – country and regional. During the PPG phase, extensive consultations with countries were held to ensure that their project work was mainstreamed with core Government business. This resulted in significant co-financing / in-kind from the countries including designation of much of their work programmes / staff time to the country operational projects. By integrating the projects activities and outputs with core Government Business Planning, it is expected that the activities and generation of outputs from the project will continue long after the termination of the project. Also in Niue at least local community consultations were held to secure their buy-in and ownership of a substantial part of its work programme.<br><br>At regional level the Support Service (Pacific Regional Invasive Species Management Support Service – refer to Component 4) will operate as a user pays entity (subsidised by the project) for the countries and other projects as they evolve. Part of the “subsidy” is from the PRISMSS partners (including SPREP) who have for this project formally committed co-finance/in-kind under MOU and will continue |

<sup>18</sup> For BD projects: has the project explicitly articulated which Aichi Target(s) the project will help achieve and are SMART indicators identified, that will be used to track the project's contribution toward achieving the Aichi Target(s)?

|                                  |   |   |   |
|----------------------------------|---|---|---|
|                                  |   |   | to do so after the term of the project along with other contributing partners who are expected to join the project as it is implemented. Sustainability affairs have been extensively addressed in the project document   |
|                                  | 4. Is the project designed with sound incremental reasoning?  |   |   |
|                                  | 5. Are the components in Table B sound and sufficiently clear and appropriate to achieve project objectives and the GE Biosecurity? |   |   |
|                                  | 6. Are socio-economic aspects, including relevant gender elements, indigenous people, and CSOs considered?                          | November 22, 2016<br>Also, at PPG please include how traditional ecological knowledge and management systems will be incorporated as appropriate. | During the PPG process it was possible to consult directly with villages from Niue but was impractical for the other countries (communities spread out over hundreds of islands, many extremely remote) and it was agreed that, wherever possible (some islands which will receive interventions are not inhabited), local communities would be involved as much as possible (this is clearly articulated throughout the project document) – consulted in designing the work to be done which would mean taking the opportunity to include any traditional ecological knowledge into rolling out the project. In short – it is expected that the close collaboration with the communities during the roll out of the project (in fact many activities are completely dependent on these communities) will guarantee utilising indigenous traditional knowledge. |
| <b>Availability of Resources</b> | 7. Is the proposed Grant (including the Agency fee) within the resources available from (mark all that apply):                      |   |   |
|                                  | • The STAR allocation?  |   |   |
|                                  | • The focal area allocation?  |   |   |
|                                  | • The LDCF under the principle of equitable access  |   |   |
|                                  | • The SCCF (Adaptation or Technology Transfer)?   |   |   |
|                                  | • Focal area set-aside?   |   |   |
| <b>Recommendations</b>           | 8. Is the PIF being recommended for clearance and PPG (if additional amount beyond the norm) justified?                             |   |   |
| <b>Review Date</b>               | Review  |   |   |
|                                  | Additional Review (as necessary)  |   |   |
|                                  | Additional Review (as necessary)  |   |   |

\*Last comment from the PIF Review responded to



**Drivers/Assumptions (project has some influence):** local communities and Government will interact effectively to ensure the former's long term buy-in thus ensuring sustainability; national NISSAP TAG PSC function will work effectively across all sectors; political will remains to mainstream IAS/BS functions in Government business; PRISMSS partnerships remain viable long term and other projects from different funding streams will use the PRISMSS; bilateral support for the PRISMSS and SPREP IAS/BS programme continues long term. IAS identified as threats to national assets such as biodiversity have a clear net negative value to society. While in theory (and in practice for other parts of the world there may be some IAS which have positive economic value (e.g. income generation for local communities), in our case only IAS which are obviously damaging will be tackled by this project and the PRISMSS.

**Notes:**

1. The Theory of Change (ToC) of a project describes the causal pathways from project outputs (goods and services delivered by the project) through outcomes (changes resulting from the use made by key stakeholders of project outputs) towards impact (long term changes in environmental benefits and living conditions). The ToC will show any intermediate changes (intermediate outcomes in the diagram above) required between project outcomes and impact, called 'intermediate states'. The ToC further defines the external factors that influence change along the major pathways; i.e. factors that affect whether one result can lead to the next. These external factors are either drivers (when the project has a certain level of control) or assumptions (when the project has no control). The current project has partial control over assumptions/drivers. The ToC also clearly identifies the main stakeholders involved in the change processes (Source: UN Environment internal document)
2. Theory of Change (TOC) – Outputs to Impact Analysis. Only primary causal pathways are indicated with arrows because with a cross-cutting issue like IAS/BS all components interact in theory. Risks are implicit in the assumptions.
3. As monitoring and evaluation data become available during the roll out of the project, the TOC can be periodically and systematically refined as informed by evidence arising from the practice of implementing the project.

## *Appendix 19: Scorecard methodology and results for assessing countries' progress following the framework described in the "Guidelines"*

During the past GEF Pacific Alliance for Sustainability Pacific regional invasive species project a database was piloted to collect information from all Pacific countries and territories to measure the progress in implementing the "Guidelines for Invasive Species Management in the Pacific", both nationally and collectively as a region. The structure of the database aligns with the objectives of the Guidelines and that of the Components of the previous project. These elements include: (A) Foundations including A1 Generating Support, A2 Building Capacity and A3 Legislation/Policy/Protocols; (B) Problem definition, prioritisation and decision making, including B1 Baseline and Monitoring, B2 Prioritisation and B3 Research on priorities; and (C) Management Action including C1 Biosecurity, C2 Management of established IAS and C3 Restoration. Each objective has several indicators which are currently completed through data transfer from external databases or completed by country teams on an annual basis. Currently some of the indicators have a defined limit whereas others are a raw number of hectares, number of plants etc. During the proposed project the database will be migrated on-line and indicators will be weighted and used cumulatively to provide more meaningful measures. The indicators will eventually be aligned to MEA requirements such as meeting the Aichi Targets. The questionnaire follows:

### **A. Foundations**

#### **1. Generating Support**

##### **A1:1 Greater awareness is created at the school, community and political levels**

*0-No awareness programmes active in schools, community or at the political level*

*1-Awareness programme is active in schools, community or at the political level*

*2-Awareness programmes are active in 2 target areas (schools, community or at the political level)*

*3-Awareness programmes are active in all target areas*

##### **A1:2 Awareness results in behaviour change**

*0-No behaviour change recorded in target areas*

*1-Behaviour change recorded in one target area*

*2-Behaviour change recorded in two target areas*

*3-Behaviour change recorded in all target areas*

#### **2 Building Capacity**

##### **A2:1 Workforce implement best practice (no categories – simple statistic)**

*Number of Standard Operating Procedures being utilised (SOP's are documented best practice for routine operations)*

##### **A2:2 Pacific Invasives Learning Network Team- Practitioners**

*0-No PILN team*

*1-PILN team in place*

*2-PILN team meets regularly nationally*

*3-PILN team contributes regionally*

##### **A2:3 National invasive species cross-sectoral committee - at government level**

*0-No National invasive species cross-sectoral committee*

*1-National invasive species cross-sectoral committee in place*

*2-National invasive species cross-sectoral committee contributes to decision making at the political level*

##### **A2:4 National invasive species coordinator**

*0-No National invasive species coordinator*

*1-National invasive species coordinator in place, project funded (Short Term - project related)*

*2-National invasive species coordinator in place, Not project funded (Permanent)*

*3-National invasive species coordinator has been in place for at least 5 years*

##### **A2:5 Invasive species workforce capacity (no categories – simple statistic)**

*Number of staff in country working on invasive species issues. Includes Environment depts and Quarantine*

#### **3. Legislation, Policy, Protocols**



### **A3:1 Invasive species legislation**

- 1-Some Invasive species legislation but fragmented*
- 2-Harmonised Invasive species legislation*
- 3-Harmonised Invasive species legislation and being implemented*

### **A3:2 National Invasive Species Strategy Action Plan (NISSAP)**

- 0-No National Invasive Species Strategy Action Plan (NISSAP)*
- 1-Expired National Invasive Species Strategy Action Plan (NISSAP)*
- 2-Current National Invasive Species Strategy Action Plan (NISSAP)*
- 3-National Invasive Species Strategy Action Plan (NISSAP) not structured to guidelines but being implemented*
- 4-National Invasive Species Strategy Action Plan (NISSAP) structured to guidelines and being implemented*

### **A3:3 NISSAP Expiry date (no categories – simple statistic)**

*Expiry date of the current NISSAP – if there is one*

### **A3:4 Ballast water and hull-fouling protocols**

- 0-No ballast water or hull-fouling protocols*
- 1-National Ballast Water Management Strategy exists OR a Party to the Ballast Water Management Convention*
- 2-National Ballast Water Management Strategy exists and a Party to the Ballast Water Management Convention*
- 3-National Ballast Water Management Strategy exists which is informed by SRIMPAC, and a Party to the Ballast Water Management Convention*

## **B Problem Definition, Prioritisation and Decision Making**

### **1. Baseline and Monitoring Change**

#### **B1:1 Terrestrial invasive species baseline surveys**

- 0-No terrestrial invasive species baseline surveys*
- 1-Terrestrial invasive species baseline surveys desktop survey completed*
- 2-Priority terrestrial invasive species baseline survey completed*
- 3-Terrestrial invasive species baseline survey results captured in a geo-referenced digital format. (Structured spreadsheet, GIS, etc)*

#### **B1:2 Percentage of priority terrestrial invasive species monitored this year**

- 0-No priority terrestrial invasive species monitored this year*
- 1-Up to 25 percent of priority terrestrial invasive species monitored this year*
- 2-Between 26 and 50 percent of priority terrestrial invasive species monitored this year*
- 3-Between 51 and 75 percent of priority terrestrial invasive species monitored this year*
- 4-Between 76 and 100 percent of priority terrestrial invasive species monitored this year*

#### **B1:3 Terrestrial priority biodiversity sites baseline surveys**

- 0-No terrestrial priority biodiversity sites baseline surveys*
- 1-Terrestrial priority biodiversity sites baseline surveys desktop survey completed*
- 2-Priority terrestrial priority biodiversity sites baseline survey completed*
- 3-Terrestrial priority biodiversity sites baseline survey results captured in a geo-referenced digital format. (Structured spreadsheet, GIS, etc)*

#### **B1:4 Percentage of terrestrial priority biodiversity sites monitored this year**

- 0-No terrestrial priority biodiversity sites monitored this year*
- 1-Up to 25 percent of terrestrial priority biodiversity sites monitored this year*
- 2-Between 26 and 50 percent of terrestrial priority biodiversity sites monitored this year*
- 3-Between 51 and 75 percent of terrestrial priority biodiversity sites monitored this year*
- 4-Between 76 and 100 percent of terrestrial priority biodiversity sites monitored this year*

#### **B1:5 Marine invasive species baseline surveys**

- 0-No marine invasive species baseline surveys*
- 1-Marine invasive species baseline desktop survey completed*
- 2-Priority marine invasive species baseline survey completed*
- 3-Marine invasive species baseline survey results captured in a geo-referenced digital format. (Structured spreadsheet, GIS, etc)*

#### **B1:6 Percentage of priority marine invasive species monitored this year**

- 0-No priority marine invasive species monitored this year*

- 1-Up to 25 percent of priority marine invasive species monitored this year*
- 2-Between 26 and 50 percent of priority marine invasive species monitored this year*
- 3-Between 51 and 75 percent of priority marine invasive species monitored this year*
- 4-Between 76 and 100 percent of priority marine invasive species monitored this year*

#### **B1:7 Marine priority biodiversity sites baseline surveys**

- 0-No marine priority biodiversity sites baseline surveys*
- 1-Marine priority biodiversity sites desktop survey completed*
- 2-Marine priority biodiversity sites baseline survey completed*
- 3-Marine priority biodiversity sites baseline survey results captured in a geo-referenced digital format. (Structured spreadsheet, GIS, etc)*

#### **B1:8 Percentage of marine priority sites monitored this year**

- 0-No marine priority sites monitored this year*
- 1-Up to 25 percent of marine priority sites monitored this year*
- 2-Between 26 and 50 percent of marine priority sites monitored this year*
- 3-Between 51 and 75 percent of marine priority sites monitored this year*
- 4-Between 76 and 100 percent of marine priority sites monitored this year*

### **2. Prioritisation**

#### **B2:1 Priority Invasive species identified**

- 0-No prioritisation of invasive species has been done*
- 1-Existing risk assessments have contributed to the prioritisation of invasive species*
- 2-Stakeholder endorsement of the prioritised invasive species*
- 3-Priority invasive species are identified with the Action Plan*

#### **B2:2 Pathways Identified**

- 0-No Pathways Identified*
- 1-Pathways have been identified*

#### **B2:3 Priority biodiversity sites identified**

- 0-No prioritisation of priority biodiversity site has been done*
- 1-Existing risk assessments have contributed to the prioritisation of biodiversity sites*
- 2-Stakeholder endorsement of the prioritised biodiversity sites*
- 3-Priority biodiversity sites are identified with the NISSAP*

### **3. Research on priorities**

#### **B3:1 Accessing Information**

- 0-No research information used*
- 1-On-line information resources are used to assist research*
- 2-Information links are established and maintained with regional agencies and research institutions*

#### **B3:2 Best practice is identified**

- 0-No research*
- 1-Issues identified for research*
- 2-Research plan developed*
- 3-Research plan implemented including review of existing information*
- 4-Best practice management research procedures identified*

### **C Management Action**

#### **1 Biosecurity**

##### **C1:1 Environmental issues are incorporated into National biosecurity**

- 0-No environmental issues are incorporated into national biosecurity*
- 1-Invasive species evident in countries with existing pathways are identified*
- 2-National biosecurity incorporates identified environmental risks into their border control operations*

##### **C1:2 Early Detection Rapid Response**

- 0-No Early Detection Rapid Response Plans*
- 1-Priority risk species from countries connected by pathways are identified*

2-Early Detection Rapid Response developed and endorsed  
3-Species detected and response actioned under Early Detection Rapid Response plan

### **C1:3 Inter-island biosecurity**

0-Inter-island biosecurity not present  
1-Priority risk species from neighbouring islands identified  
2-Inter-island biosecurity plan developed and endorsed  
3-Species detected and response actioned under inter-island biosecurity

## **2 Management of established invasives**

### **C2:1 List the priority invasive plant species under management (includes controlled/contained, plants that are currently being worked on)**

*Number of priority invasive plant species under management*

### **C2:2 List the invasive plant species that have been eradicated and which island (i.e. completely removed from an island)**

*Number of invasive plant species that have been eradicated*

### **C2:3 Name the invasive plants with biocontrol agents in place.**

*Number of invasive plants with biocontrol agents in place*

### **C2:4 List the priority invasive animal species under management (includes controlled/contained, animals that are currently being worked on)**

*Number of priority invasive animal species under management*

### **C2:5 List the priority invasive animal species that have been eradicated and which island (i.e. completely removed from an island)**

*Number of priority invasive animal species that have been eradicated*

### **C2:6 List the islands (includes motu's/islets) with rats eradicated**

*Number of islands with rats eradicated*

### **C2:7 List the priority marine invasive species under management (includes controlled/contained)**

*Number of priority marine invasive species under management*

### **C2:8 List the priority marine invasive species that have been eradicated (i.e. completely removed from your country)**

*Number of priority marine invasive species that have been eradicated*

## **3 Restoration**

### **C3:1 Name the sites under restoration, list names**

*Number of sites under restoration*

### **C3:2 No. of hectares with a restoration plan**

*No. of hectares with a restoration plan*

### **C3:3 No. of hectares under invasive plant management**

*No. of hectares under invasive plant management*

### **C3:4 No. of hectares with predator control**

*No. of hectares with predator control*

### **C3:5 No. of plants planted this year**

*No. of plants planted this year*

### **C3:6 No. of plants planted to date**

*No. of plants planted to date*

### **C3:7 Name the native species reintroduced, list names**

*Number of native species reintroduced*

## Project preparation survey results on IAS and biosecurity status in participating countries and the Pacific region

- 13 Expenditure on IAS in the region per country between 2010 and 2015 is shown below. The figures don't reveal however, that the expenditure has been piece-meal and uncoordinated except that originating from the recently completed GEF PAS IAS project. Further, they don't reveal the amount of expenditure relative to the cost of IAS to the economy and human health of the region nor the impacts on native biodiversity – onshore or offshore. This is because it is not possible calculate these regional costs with available information but it is certain that the expenditure on IAS relative to the costs they incur in the region is diminutively small thus further justifying the current project.

### Previous and On-going IAS Spending in the Pacific Region

**Table 7: Lists of Previous & On-going IAS Spending / Programmes by Country and Funder\***

#### A. Spending by Country (2010-2015)

| Country          | Prevention       | Control / Management | Eradication      | General IAS      | Total [in USD]    |
|------------------|------------------|----------------------|------------------|------------------|-------------------|
| Cook Islands     | 291,393          | 1,378,236            | 327,427          | 69,000           | <b>2,066,056</b>  |
| Fiji             | 35,280           | 400,934              | 652,250          | -                | <b>1,088,464</b>  |
| FSM              | -                | -                    | 50,000           | 61,180           | <b>111,180</b>    |
| Kiribati         | 245,005          | 35,000               | 1,230,479        | 165,561          | <b>1,676,045</b>  |
| Niue             | 50,000           | 157,000              | 30,000           | 77,040           | <b>314,040</b>    |
| Palau            | 17,000           | 24,775               | 951,802          | 39,180           | <b>1,032,757</b>  |
| RMI              | 6,549            | 12,000               | -                | 54,631           | <b>73,180</b>     |
| Samoa            | 75,000           | 173,398              | 286,040          | 75,642           | <b>610,080</b>    |
| Tonga            | 17,131           | 159,891              | 200,000          | 192,397          | <b>569,419</b>    |
| Vanuatu          | 67,506           | 310,079              | 59,427           | 166,028          | <b>603,040</b>    |
| Regional         | 157,488          | 391,344              | 70,000           | 2,072,666        | <b>2,691,498</b>  |
| Easter Island    | -                | 40,068               | -                | -                | <b>40,068</b>     |
| New Caledonia    | -                | 280,000              | 50,000           | -                | <b>330,000</b>    |
| French Polynesia | 88,638           | 750,000              | 1,369,745        | -                | <b>2,208,383</b>  |
| Tokelau          | -                | -                    | -                | 31,000           | <b>31,000</b>     |
| <b>Total</b>     | <b>1,050,990</b> | <b>4,112,725</b>     | <b>5,277,170</b> | <b>3,004,325</b> | <b>13,445,210</b> |

#### A. Spending by Funder (2010-2015)

| Donor                          | Prevention       | Control / Management | Eradication      | General IAS      | Total             |
|--------------------------------|------------------|----------------------|------------------|------------------|-------------------|
| GEF                            | 416,783          | 655,365              | 315,333          | 1,634,337        | <b>3,021,818</b>  |
| CEPF                           | 574,207          | 1,037,360            | 981,837          | 644,988          | <b>3,238,392</b>  |
| NZ MFAT                        |                  | 1,000,000            |                  |                  | <b>1,000,000</b>  |
| RSPB                           | 40,000           |                      |                  |                  | <b>40,000</b>     |
| Birdlife International Pacific |                  | 1,420,000            | 2,480,000        |                  | <b>3,900,000</b>  |
| Island Conservation            |                  |                      | 700,000          |                  | <b>700,000</b>    |
| Packard Foundation             |                  |                      | 800,000          |                  | <b>800,000</b>    |
| PILN (SPREP)                   |                  |                      |                  | 725,000          | <b>725,000</b>    |
| SOP Manu RFPBIOSECURITY        | 20,000           |                      |                  |                  | <b>20,000</b>     |
| <b>Total</b>                   | <b>1,050,990</b> | <b>4,112,725</b>     | <b>5,277,170</b> | <b>3,004,325</b> | <b>13,445,210</b> |

\* The data in the above tables includes inputs from the primary known funders of IAS management activities in the insular Pacific, but it is likely that it does not include all the funds spent on IAS in the region. However, it is believed to fairly represent the relative expenditure between the four categories. Data from UN Environment Project Identification Form for the current project.

- 14 SPREP (the primary EA for the current project) has run an IAS focused programme since 1998 led by one full time Advisor. The programme has included many projects and it is a permanent fixture in the SPREP. The SPREP IAS programme has provided the motivation for at least two allied regional initiatives – the Pacific Invasives Learning Network and the Pacific Invasives Partnership. The former has provided a forum for in-country colleagues to receive training and project support and the latter has provided a forum for agencies to share information and coordinate planning new projects. The PILN and PIP have been active since 2006 and 2007 respectively.
- 15 The UN Environment is or has been in the recent past Implementing Agency for 9 IAS/BIOSECURITY projects (Table 8). Other projects for which UN Environment is IA such as the Ridges to Reef project for Palau and the regional Access and Benefit Sharing projects (both GEF-5) also have significant IAS/ biosecurity components. UN Environment is also running “UNEP Live” which is essentially a portal of environment related technical information which will include IAS/ biosecurity type data. These initiatives will network via UN Environment so that best practice and lessons learnt can be shared between the projects. UN Environment and SPREP will also ensure networking between sister agencies with related roles and responsibilities in the Pacific region (especially FAO and SPC respectively – agencies with which each has MOU’s obligating them to collaboration). UNE will also be able to collaborate with CABI which is Executing Agency for the Caribbean and (has been) for SE Asia forests IAS project.
- Annex Table 8 below

**Table 8: Recent and current United Nations Environment projects focussed on IAS and biosecurity (UNEP/Environment Programme = UN Environment, UNEP project codes retained)**

| Project title and number   | Countries/region   | Total budget (USD) | Status                     |
|--|--|--------------------|----------------------------|
| Building capacity and raising awareness in IAS prevention and management (GEF 0077; UNEP 00420)  | Global   | No data            | Technically complete       |
| Strengthening national and regional capacities to reduce the impact of IAS of globally significant biodiversity in the Pacific (UNEP 01406, GEF 9410)                  | Tonga, Niue, Republic of the Marshall Islands, Tuvalu  | 18,932,489         | Approved (current project) |
| Mitigating the threats of invasive alien species in the Insular Caribbean (GEF 3183, UNEP 00337)   | Dominican Republic, Trinidad and Tobago, Jamaica, St Lucia, Bahamas; Insular Caribbean                                   | 6,413,394          | Technically complete       |
| Preventing COSTS of IAS in Barbados and the OECS countries (UNEP 01404, GEF 9408)  | Barbados, Antigua and Barbuda, Dominica, Grenada, St Kitts and Nevis, St Lucia, St Vincent and the Grenadines; Caribbean | 5,683,875          | PPG phase                  |
| Enhancing sustainability of protected area systems in Malawi and stabilising agro-production in adjoining areas through improved IAS management (UNEP 01158; GEF 9539) | Malawi – central east Africa   | 6,452,511          | Approved                   |
| Development and implementation of a national monitoring and control system (framework) for Living Modified Organisms (LMO’s) and IAS (UNEP 00376; GEF 3651)            | Cameroon – central west Africa   | 11,200,000         | Approved                   |
| Removing barriers to IAS management in production and protection forests in SE Asia (GEF 3957; UNEP 0515)  | Cambodia, Vietnam, Indonesia, Philippines, SE Asia   | 6,842,721          | Technically complete       |
| Strengthening management of ASEAN Heritage Park on prevention and control of IAS (APHIS) (GEF no data, UNEP 00820)   | Philippines, Malaysia, Indonesia, Thailand   | no data            | Technically complete       |
| Prevention, control and management of IAS in the Pacific Islands (GEF 3664, UNEP 00378)  | Republic of Marshall Islands, Federated States of Micronesia, Papua New Guinea (withdrew),                               | 7,010,890          | Technically complete       |

|   |   |            |                      |
|---|---|------------|----------------------|
|   | Cook Islands, Kiribati, Samoa, Tonga, Vanuatu, Niue, Palau. |            |                      |
| Removing barriers to invasive plant management in Africa GEF 2140 | Ethiopia, Uganda, Zambia, Ghana                             | 11,173,980 | Technically complete |

16 SPREP – summary of SPREP projects involving IAS/ Biosecurity – write a summary statement – move points below to appendix 20

- a. The first invasive species core position was created at SPREP in 1998 under the SPREP Action Plan 1997-2000. This resulted in the creation of a Regional Strategy to combat the threat of IAS (Sherley 2000). The SPREP Strategic Programmes 2004-2013 included an *Island Ecosystems Programme* where invasive species was incorporated under the component of “species of special interest” which generated the “Guidelines for invasive species management in the Pacific: a Pacific strategy for managing pests, weeds and other invasive species” which provides a framework and strategic direction for Pacific members and partner agencies when managing invasive species. (SPREP 2009). The guidelines were unanimously endorsed by the SPREP Meeting 2009 which includes the five cosmopolitan countries heavily involved with the Pacific (USA, Australia, New Zealand, France and the United Kingdom).
- b. Over 2009 and 2010 SPREP executed several Critical Ecosystem Partnership Fund (CEPF) projects in Samoa and Kiribati. A full-time Pacific Invasive Learning Network (PILN) coordinator was also appointed.
- c. In 2011 SPREP launched a new strategic plan (2011-2015) with four strategic priorities, being Climate Change, Biodiversity and Ecosystem Management, Waste Management and Pollution and Environmental Monitoring and Governance. Within the Biodiversity and Ecosystem priority, the Invasive Species Strategy “Provide technical, institutional, and financial support to regional invasive species programmes in coordination with other regional bodies” was born. Since the invasive species strategy was implemented, SPREP has completed many invasive species projects with member countries and territories with funding from the CEPF, French government, the European Union and the Global Environment Facility (GEF).
- d. The GEF Pacific Alliance for Sustainability project “Prevention, control and management of invasive alien species in the Pacific islands” (completed in 2016) included in excess of 100 invasive species activities in nine countries and was structured in coordination with the Pacific guidelines adopted in 2009. This project provided a considerable basis for which to progress the SPREP Invasive Species Strategy 2011-2015 as directed by the SPREP Member Pacific countries and territories. The strategy’s goal, and progress until 2017 is provided in the table below.
- e. The SPREP Strategic Plan 2017-2019 [?] is now under implementation which places invasive species as a core objective under Regional Goal 2 (Pacific people benefit from healthy and resilient island and ocean ecosystems) within the Island and Ocean Ecosystems Programme. The progress against the SPREP Strategic Plan is shown below:

**Table 9: Invasive Alien Species elements addressed by SPREP in its current Strategic Plan**

| <b>Strategy:</b> Provide technical, institutional, and financial support to regional invasive species programs in coordination with other regional bodies   |   |
|---|---|
| Goal and Targets  | Progress to 2017  |
| <p><b>Goal 3.1: The threat of invasive species has been reduced as a result of policy, legislation, awareness and management, including regional and national targeted prevention and response action.</b></p> <p><b>Target 3.1.1:</b> By 2013, regional invasives priorities are identified, based on gap analysis of the Guidelines for Invasive Species Management in the Pacific, and coordinated action to address them is undertaken by member agencies of the Pacific Invasives Partnership in collaboration with Members.</p> | <p>The threat of invasive species has been reduced through the identification of gaps where objectives have not been met in relation to the “Guidelines for Invasive Species Management in the Pacific” (“Guidelines”). These were monitored whilst completing the “State of Conservation in Oceania” (SOCO) Report, and capacity gaps were monitored whilst completing the “Pacific Invasive Species Capacity Development Strategy” (PISCDS). Large projects that have addressed these objectives since 2010 have been the Critical Ecosystem Partnership Fund’s “Polynesia, Micronesia Hotspot” project and the GEFPAS “Prevention, control and management of invasive alien species in the Pacific islands” project. A further project has been approved for the GEF6 replenishment round (&gt;USD 6m) including a sub-component for a regional support service. The project document is currently being finalized, as is a further EU funded project for the overseas territories with an invasive species component of approximately EU 5m. Target 3.1.2 was exceeded with one NISSAP being reviewed and eight initial NISSAPs being developed. Target 3.1.3 was exceeded with eight PICTs adopting risk assessment via desktop surveys to inform invasive species management.</p> |

|   |  |
|---|--|
| <p><b>Target 3.1.2:</b> By 2017, five additional Members have National Invasive Species Action Plans, managed by National Invasive Species Committees</p> <p><b>Target 3.1.3:</b> By 2017, environmental risk assessment is adopted and informs biosecurity and invasive species management programmes in 5 PICTs</p>   | <p>This goal will consistently require attention. A “Guidelines Reporting Database has been created and tested to measure progress against the “Guidelines for Invasive Species Management in the Pacific” and gaps notified to Members for project activities and at several regional and international fora.</p>   |
| <p><b>Goal 3.2: The Pacific Invasives Partnership and Pacific Invasives Learning Network (PILN) are maintained as regional coordinating, capacity-building, and monitoring mechanisms and there is cooperation among relevant regional bodies</b></p> <p><b>Target 3.2.1:</b> By 2017, PILN achieves comprehensive membership of PICTs</p>  | <p>The two regional networks, PIP and PILN, assist Members in the areas of capacity building, awareness raising and resource mobilization. Both networks are expanding in membership, and accommodate sub-national and sub-regional initiatives and needs. PIP has gained the attention of Pacific leaders on the importance of commitments to control invasive species, as reflected in Leaders communiqués in 2012-2014. PILN teams have been strengthened by targeted training, learning exchanges and up-skilling. Members of the networks are championing and advocating, developing and implementing globally significant initiatives such as the Biosecurity Plan for Micronesia and Hawaii, and inclusion of invasive species at the Small Islands Development States (SIDS) S.A.M.O.A. Pathway. At present, invasive species cross-sector and multi-agency country teams span Micronesia, Melanesia and Polynesia. 22 teams from 19 countries (including the USA State of Hawaii) and territories have been established. The two networks have contributed significantly to accelerating invasive species management actions and building a cadre of invasive species workers or Pacific Invasive Species Battlers.</p> |
| <p><b>Goal 3.3: Invasive species issues are incorporated into public awareness programmes, formal and adult education programmes, and targeted social marketing campaigns</b></p> <p><b>Target 3.3.1:</b> By 2017, there are high-quality examples of invasive species awareness/education campaigns tailored to the region</p>   | <p>Most members include invasive species public awareness as part of their environment programmes, and some have strategies. Some countries are introducing invasive species programmes into the school system and a regional targeted social marketing campaign was designed in 2015 and implemented in 2016. This target is progressing in most countries. A guide for creating effective campaigns was published in 2016 as part of the “Invasive Species Battler Series”.</p>  |
| <p><b>Goal 3.4: Knowledge of the economic impacts of invasive species is substantially improved</b></p> <p><b>Target 3.4.1:</b> By 2013, a case study pilot demonstrating actual and potential economic costs of specific invasive species and the economic benefits of successful responses has been carried out</p> <p><b>Target 3.4.2:</b> By 2014, a social marketing campaign has been undertaken based on the case study to lift invasive species up the political agenda and increase financial support for control measures</p> | <p>Quantifying the actual economic cost of invasive species remains a key challenge because of many social and environmental factors. Economic impacts relating to trade loss, infrastructure maintenance, some health issues and loss of agricultural benefits are more easily measured than indirect costs or loss of benefits from social and environmental assets such as ecosystem services, which means that these costs are largely undervalued. Member capacity to undertake economic assessment of invasive species is progressing. A template for assessment has been developed and case-studies of five serious invasive species in Fiji completed. A guide on the economics of invasive species was published in 2016 as part of the “Invasive Species Battler Series”. Awareness of invasive species at the political level has been increased over the past four years likely resulting in commitments some countries have made towards including significant invasive species initiatives in the GEF 6 replenishment round and the EDF-11 OCTs programme</p>  |

|   |   |
|---|---|
| <p><b>Goal 3.5: Improved information on the status and distribution of invasive species, and objective prioritization methods, underpins management in the region</b></p> <p><b>Target 3.5.1:</b> By 2017, there is evidence of increased regional coordination to share information on the status and distribution of invasive species</p> <p><b>Target 3.5.2:</b> A large-scale invasive species project is included in the GEF-5 programme</p> | <p>Information on the distribution of invasive species has become available through desktop surveys of available information and new baseline surveys. The compilation of recorded species, their pathways, impacts and other factors has provided the opportunity for Members to objectively prioritize the management actions within their National Invasive Species Strategy and Action Plans. The region consists of approximately 30,000 islands so there are still areas that require baseline surveys. Baseline information has a secure repository with the IUCN's Invasive Species Specialist Group to ensure data is not lost. Systems for sharing national and regional information on success are in place and Members are being encouraged to contribute annually. A project on mobilizing invasive species data was successfully approved and implementation began in 2017. The improved information underpins the two large multi-country projects currently under finalization.</p>   |
| <p><b>Goal 3.6: The region places greater emphasis on eradication and biological control as means to manage invasives</b></p> <p><b>Target 3.6.1:</b> By 2017, demonstration biocontrol and eradication projects have been carried out within the GEF-PAS programme and complementary initiatives</p>   | <p>Eradication methods are used by Members to manage low incidence invasive plants, which can take many years depending on the seed viability of the species, and methods and materials available for control. The often relatively small size of many valued biodiversity sites and the existence of many invasive species determines that ongoing control is an important management aspect in areas where eradication is not feasible, and a site-led approach to management is recommended. Site led projects are operational in Samoa and Tonga. Further site-led projects will be implemented in New Caledonia, Niue, RMI, Tonga, Tuvalu and Wallis et Futuna in the upcoming projects.</p> <p>Prior to 2011, 114 eradications had taken place on 9 animal species in 12 member PICTs, most took place in the 1990's and 2000's. Between 2011 and 2016, 43 eradications have taken place on 6 animal species in 6 PICTs. The recent eradications have focused on cats, 3 species of rats and goats. Taking into account that the majority of earlier eradications were implemented over 20 years, the rate of eradications has increased by approximately 43 percent over the past 5 years. Animal eradications are generally technically complex and require significant technical resources and funding. Recently a focus has been on increasing the number of eradications by focusing on small islands which members can complete largely on their own with limited funding. These will complement larger scale projects. The eradication of invasive animals, in particular rats and cats, are essential for restoring both terrestrial and marine ecosystem function and needs to be more widely used as a tool for ecosystem based adaptation to climate change and to prepare for natural disasters. Further eradication projects will be implemented in French Polynesia, RMI, Tonga, Tuvalu and Wallis et Futuna.</p> <p>Since 1911 sixty two biocontrol agents have been deliberately introduced to Pacific PICTs, following host specificity testing, to control 21 weed species in 17 countries. A further 2 agents have spread naturally into the region. Thirty six of the agents are now established on 19 weed species. Biocontrol projects are greatly assisted by Australia, New Zealand and United States experts. Over the past 5 years more weed targets of environmental concern have been addressed such as African tulip and <i>Mikania micrantha</i>. Research is underway to determine the origin of <i>Merremia peltata</i> of which is a concern to much of the Pacific. There is much potential to further spread existing biocontrol agents to additional countries around the Pacific with over 200 opportunities to introduce existing agents to countries which do not yet have them established. Further work on new novel species that threaten ecosystem resilience at the landscape level and increase damage and costs during and following natural disasters need to be assessed. Weed biological control programmes will be implemented in Niue, RMI, Tonga, Tuvalu and Wallis et Futuna in the upcoming projects.</p> |



- f. SPREP has been the Executing Agency for the nine country GEF Pacific Alliance for Sustainability (GEF 4) project (see Table 8) which was completed in 2016 (including the Terminal Evaluation which was extremely positive for SPREP and UN Environment as EA and IA's respectively) plus the complimentary Integrated Island Biodiversity (IIB) GEF PAS project which included four countries – Tonga, Cook Islands, Tuvalu and Samoa – hence two of the same countries in the GEF PAS IAS project and two of the same countries in the current project. Hence there is some strong continuity possible between the IAS/biosecurity projects and the IIB project.
  - g. The Pacific Invasives Learning Network has been hosted by SPREP since 2009 and included one professional position whose role has been to ensure information flow between Government and NGO employees involved with IAS/BIOSECURITY projects. This was achieved using regular and frequent newsletters and arranging annual meetings depending on funding availability. Funding has been short in the last two years and at time of writing the PILN Coordinator position remains unfilled.
  - h. SPREP has created the “[IAS] Battler” Series which is a set of “how to do” reports available free on-line to users covering topics such as “Guidelines for urban rat control”, “Biosecurity guidelines for the Phoenix Islands”, “Assessing and managing invasive species within protected areas” and “Removing rodents from small tropical islands with success”. The website (SPREP.org or <https://piln.sprep.org/>) also includes reports and quick links to other valuable on-line tools such as the Global Invasive Species Database (<http://www.iucngisd.org/gisd/>)
- 17 SPC – summary of SPC projects relating to IAS/BIOSECURITY
- a. SPC designed and rolled out a training programme for border control / quarantine officers from approximately 1999 to present
  - b. The Land resources Division work includes identifying invasive species, pests, and disease problems and strengthening national and regional capacity in pest diagnosis by conducting pest and disease surveys, skills attachments, appropriate diagnostic tools, and extension materials on invasive species.
  - c. The Pest List Database (PLD), an initiative of SPC, is updated on national records of pest incursions, and SPC manages the regional PLD as a useful resource in conducting pest risk analysis in market access and for monitoring pests affecting food security.
  - d. The Biosecurity Information facility (BIF), an initiative of SPC, is updated on operational biosecurity manuals at national and regional level been managed by SPC to capacitate member countries and have efficiency and management of border operations.
  - e. Legislation review for biosecurity and quarantine acts/laws inclusive of risk assessment and market access in determining appropriate measures to reducing risk to acceptable levels, review of quarantine systems and pathways.
  - f. SPC has worked to provide technical assistance on the management of several invasive species, including mile-a-minute, *Mikania*, *Merremia*, water hyacinth, Jerusalem thorn, African tulip, and Sida species
  - g. A communication strategy (involving on-line tools and social media) on climate change will include IAS/biosecurity
  - h. Plant health clinics bringing pest diagnostic services to farmers in the Pacific (part of the programme on integrated crop management run by the SPC Plant Health Team)
  - i. Integrated Crop and Pest Management in countries such as Samoa and Solomon Islands has been managed by Plant Health as well as on pesticide residue assessment for member countries
  - j. At least 8 biological control programmes have been supported targeting mainly agricultural pests although at least two have included threat species to native biodiversity
- 18 The IUCN's regional Pacific office acts as the Pacific node of the IUCN's Invasive Species Specialist Group. It produces a newsletter (“Aliens Newsletter”) and runs a networking service – “Aliens-L Listserver” which updates users with up to date information on discoveries and best practices. It is also the node for the Invasive Species Expertise Register and provides a Referral Service to colleagues seeking advice or support. It houses the GISD and the Interactive Global Invasive Species Map. It belongs to the Pacific Invasives Partnership which is an umbrella regional coordinating body for organisations working on IAS in more than one country in the Pacific region. The partnership is the Invasive Species Working Group of the Round Table for Nature Conservation in the Pacific Islands. PIP aims to ensuring the successful implementation of the “Guidelines” (SPREP 2009) which has been endorsed by the SPREP and SPC Meetings.
- 19 Island Conservation – Pacific projects have included eradication projects of mammalian predators which threaten island biodiversity. World-wide they are recognised as experts in eradicating vertebrate IAS from insular islands including extensive experience with tropical islands. Examples include rodent eradications for the Acteon-Gambier Archipelago Restoration Project (French Polynesia) in 2015, Tonga (Late Island and other islets), Republic of Palau (including within the Rock Islands Southern Lagoon World Heritage Area), Federated States of Micronesia (Ulithi Lagoon), and New Caledonia (Walpole Island) and Henderson Island (a partner). The latter was unsuccessful however, but, significantly, an analysis was conducted which aimed to identify why the eradication

failed and what lessons could be learnt to improve future eradication projects. When Island Conservation works in the Pacific it brings to its work much experience from its work elsewhere in the world including North America, Caribbean and South America.

- 20 Pacific Invasives Initiative (<http://www.pacificinvasivesinitiative.org/>) has developed best practice resource kits for rodent and cat eradication, and invasive plant management; training courses on how to eradicate rodents and cats from islands, invasive plant management and Island biosecurity. Thus it provides technical support and capacity development for invasive species management in the Pacific region. Other projects it has had significant involvement with have included the Pacific Ant Prevention Programme, Pacific Invasives Learning Network and the Pacific Invasives Partnership (whose role is assisting coordinating, developing and tracking regional IAS effort in the Pacific – including territories).
- 21 The Commonwealth Agricultural Bureau International (CABI) is developing in collaboration with SPREP and SPC the Pacific component (prioritised IAS weeds) of the Invasive Species Compendium (open source and available for use free [www.cabi.org/isc](http://www.cabi.org/isc) ) which provides a detailed account of IAS which threaten Biodiversity and livelihoods.
- 22 SPREP professional staff full-time employed on IAS has averaged just under two Full Time Equivalents (FTE's) over the last ten years while SPC has employed about two FTE's over the same period. However, volunteers and temporary staff at SPREP have increased the FTE work force by 2 or 3 over the same period. These figures do not include the administrative/staff management investment by the agencies in the IAS/BIOSECURITY area.
- 23 Over the past ten years the level of employment of staff by Governments and agencies has varied considerably and this lack of continuity has compromised achievements in combating threats from IAS. A model of sustainability is required which demonstrates proof of concept of how countries can rely on regional institutional technical support to tackle IAS/ biosecurity and not have to themselves construct costly technical support services. This collective and collaborative approach between the leading regional agencies (SPREP and SPC) and countries should provide the incentive for continuity of positions and projects in country and in regional agencies – provided by proof-of-concept to funding agencies.

#### ***Marine Invasive Species, ship ballast water and hull fouling***

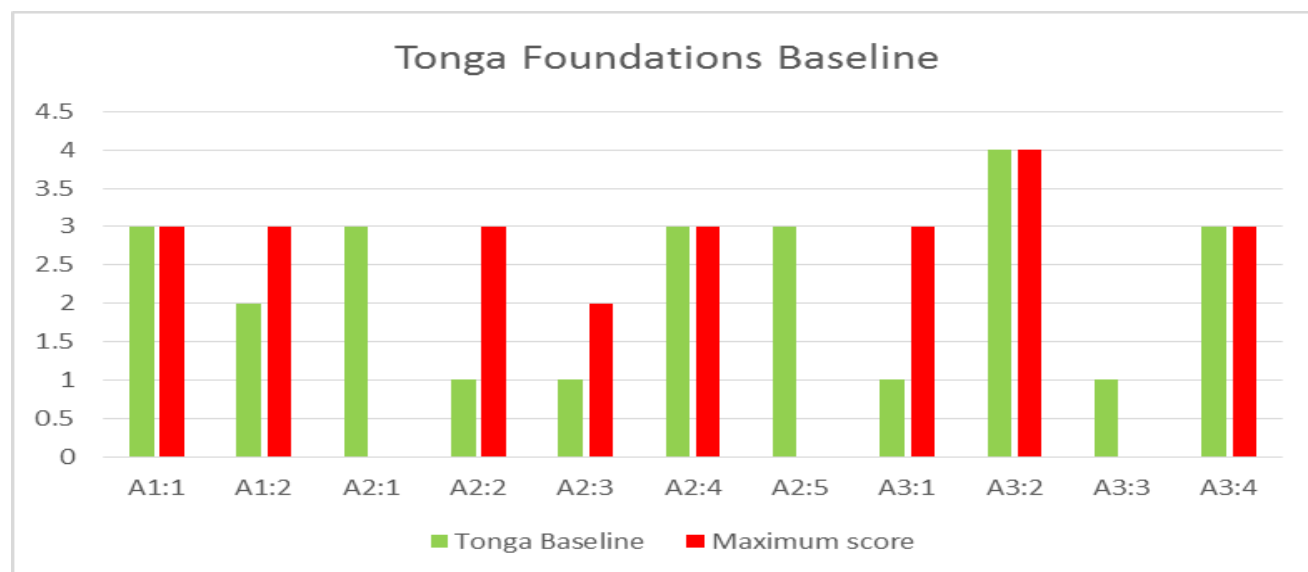
- 24 Marine invasive alien species work in the Pacific region and countries has been divided between mitigating their introduction via ballast water or hull fouling. The International Maritime Organisation has run the GEF funded “Globallast” (UNDP-IMO Global Ballast Water [and sediments] Partnerships Programme) programme for the UNDP since 2007 (<http://www.imo.org/en/OurWork/Environment/MajorProjects/Pages/GloBallast-Programme.aspx>). The main aim has been to develop an international regulatory framework for ballast water discharge in order to minimise the spread of foreign marine species (many “invasive”). One of the programme's successes was the establishment of the Ballast Water Management Convention. Others include delivering 140 training courses to over 2,000 participants in 81 countries (including some from the Pacific) in ten regions. At least 30 countries now have national ballast water management strategies (including 7 Pacific countries – see below) and over 100 countries are participating in Globallast.
- 25 Within the Pacific region the following milestones have been achieved:
  - 2006 17<sup>th</sup> SPREP Meeting the Shipping Related Introduced Marine Pests in the Pacific strategy (known as “SRIMP-Pac”) was adopted by the Pacific Island Countries and (then) four metropolitan countries (USA, Australia, New Zealand and France). The strategy's aims include assessing and monitoring current and potential risks, improving PICT capacity, sourcing finance and establishing a framework for regional cooperation, coordination and agreement on introduced marine pests within the Pacific region and with Pacific rim countries.
  - 2009 Regional Introductory Workshop on Ballast Water Management
  - 2009 Regional Workshop on Port Biological Baseline Surveys
  - 2011 Regional Workshop on Legal Implementation of the Ballast Water Management Convention
  - 2011 Regional model Marine Pollution Prevention Act amended to incorporate provisions of the Ballast Water Management Convention
  - 2011 National Task Force Meetings in Fiji, Republic of Marshall Islands, Samoa and Tonga
  - 2011 Development of national strategy, legislation, economic assessment for Tonga, Fiji and Samoa
  - 2014 National Compliance Monitoring and Enforcement Workshop in Papua New Guinea, Solomon Islands and Vanuatu
  - 2015 to 2016 National Ballast Water Management Strategies for 7 Pacific Island Countries – Samoa, Tuvalu, PNG, Cook Islands, Tonga, RMI and Fiji.

#### **Country baselines results from PPG survey**

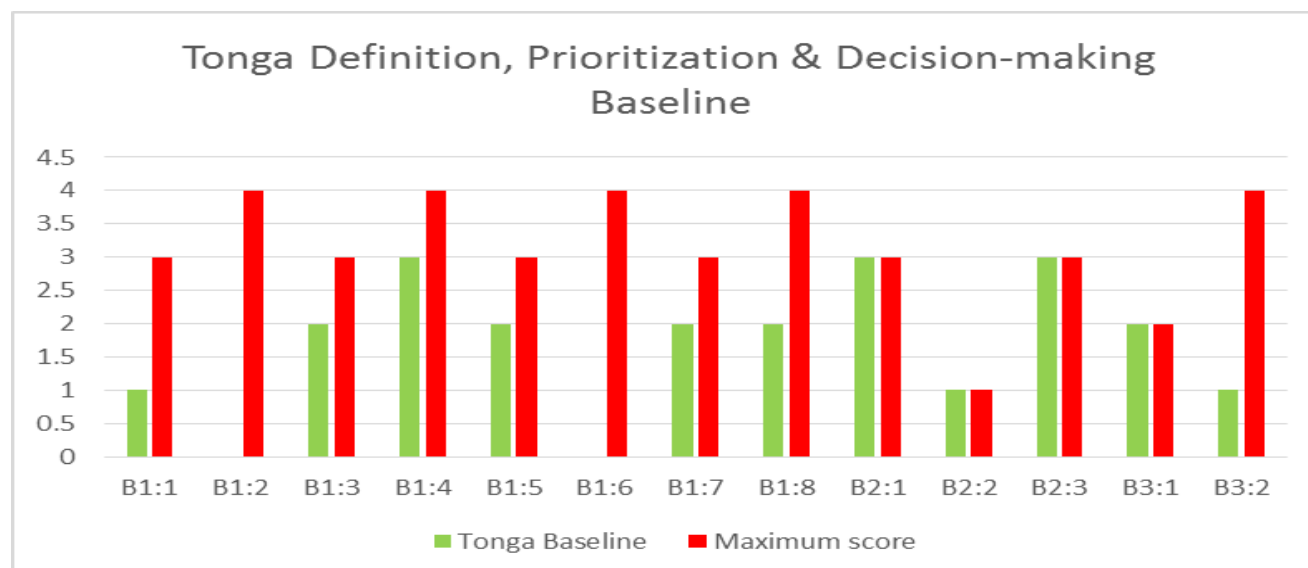
## Tonga

- 26 At the time of consultation with the Tongan Government and NGOs the following analysis shows the level of attainment of Tonga (and later in the document of the other three countries) in the three principle components as described in the Guidelines referred to above.
- 27 The above mentioned components' sub-components are shown on the horizontal axis (X axis) while the countries' assessment (green bars) relative to maximum possible scores (red bars) are on the vertical axis (Y axis). Thus the maximum scores (red bars in the histograms) show how the country has or has not performed relative to the ideal scenario. No scores (green bars in the histograms) for the variables mean the country did not score at all. Tonga's scorecard results plus current gaps and improvements needed are shown below:

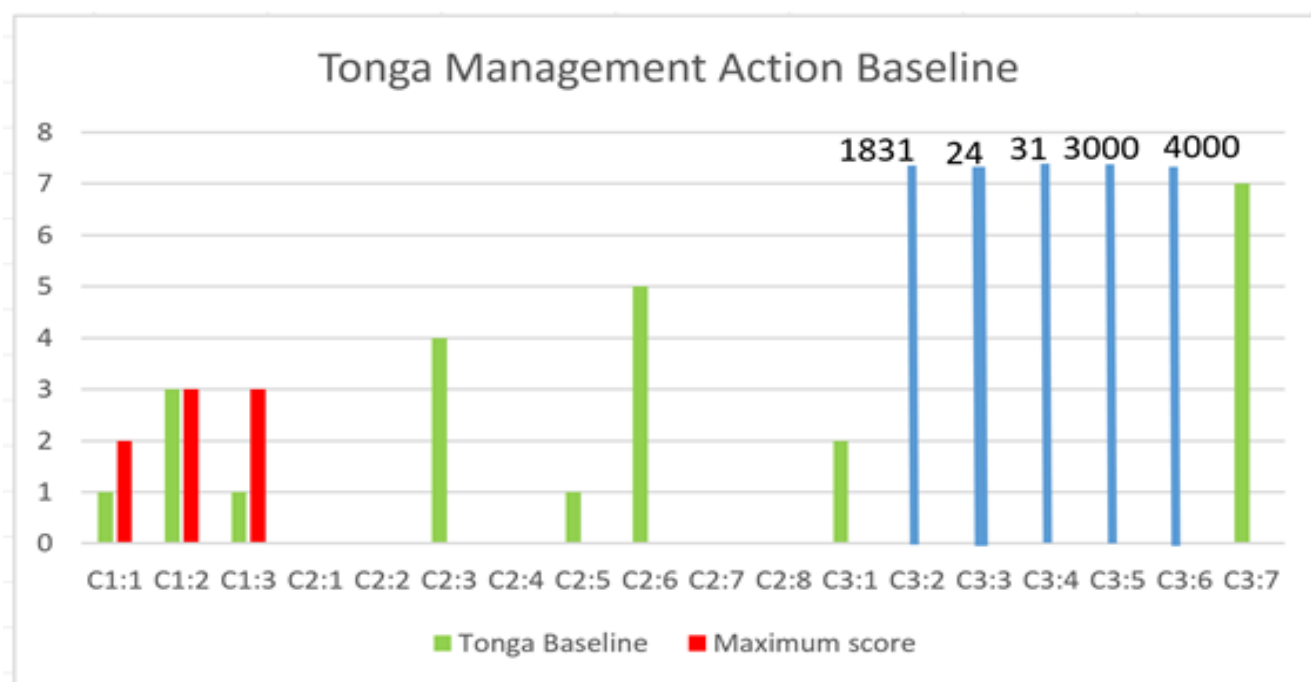
### A. Foundations Baseline



### B. Problem definition , prioritisation and decision making



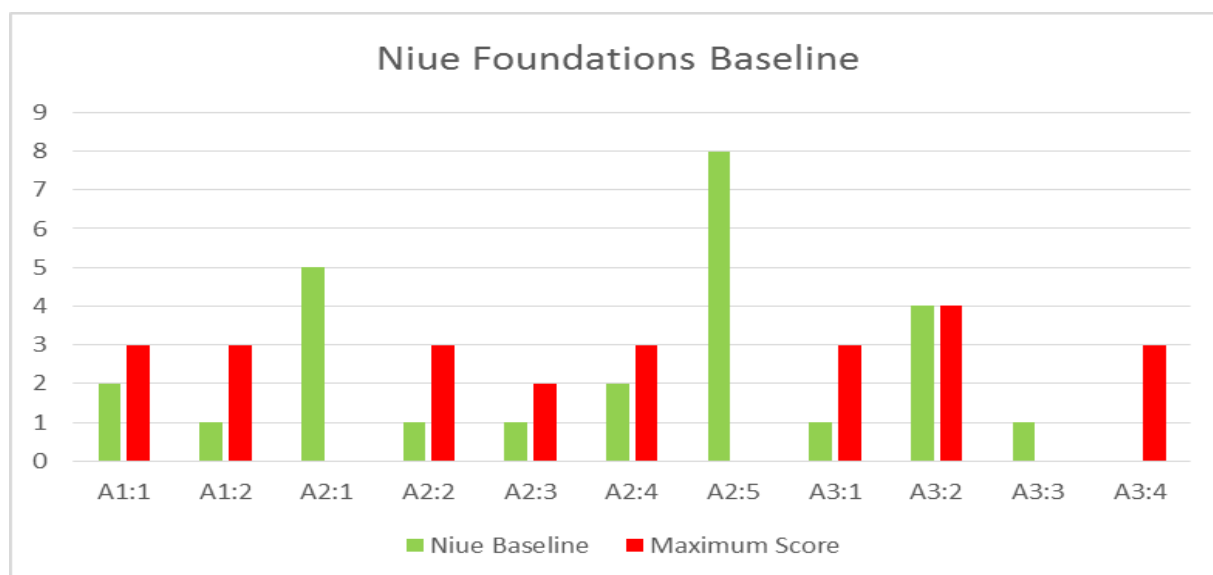
### C. IAS management action



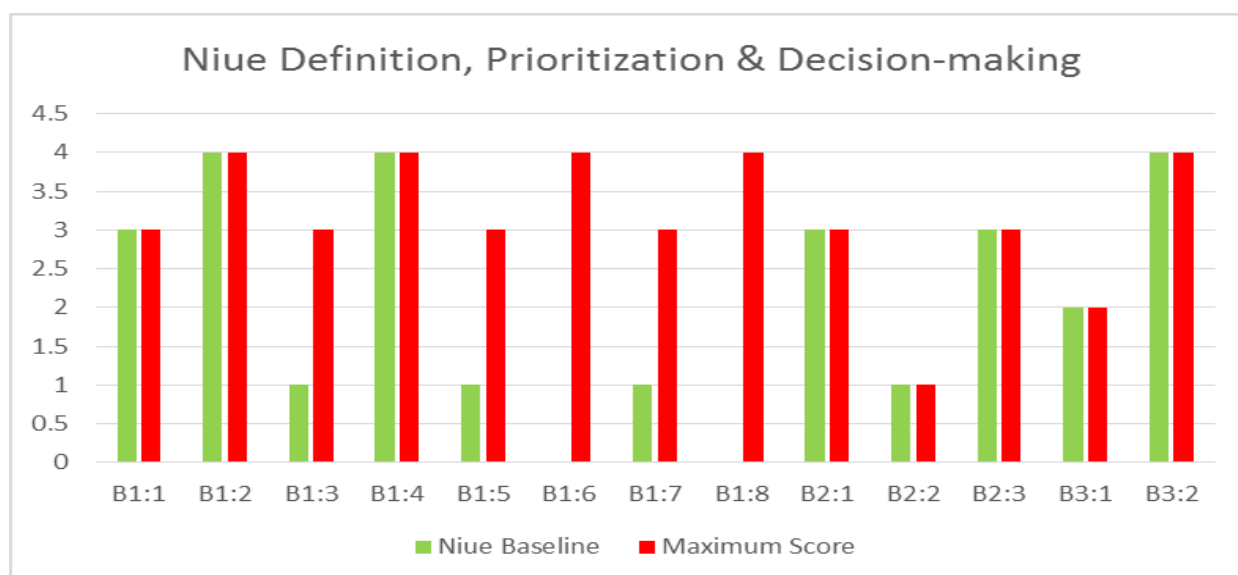
### Niue

At the time of consultation with the Niuean Government the following analysis shows the level of scorecard attainment of Niue in the three principle components as described in the Guidelines and described for Tonga above plus current gaps and improvements needed:

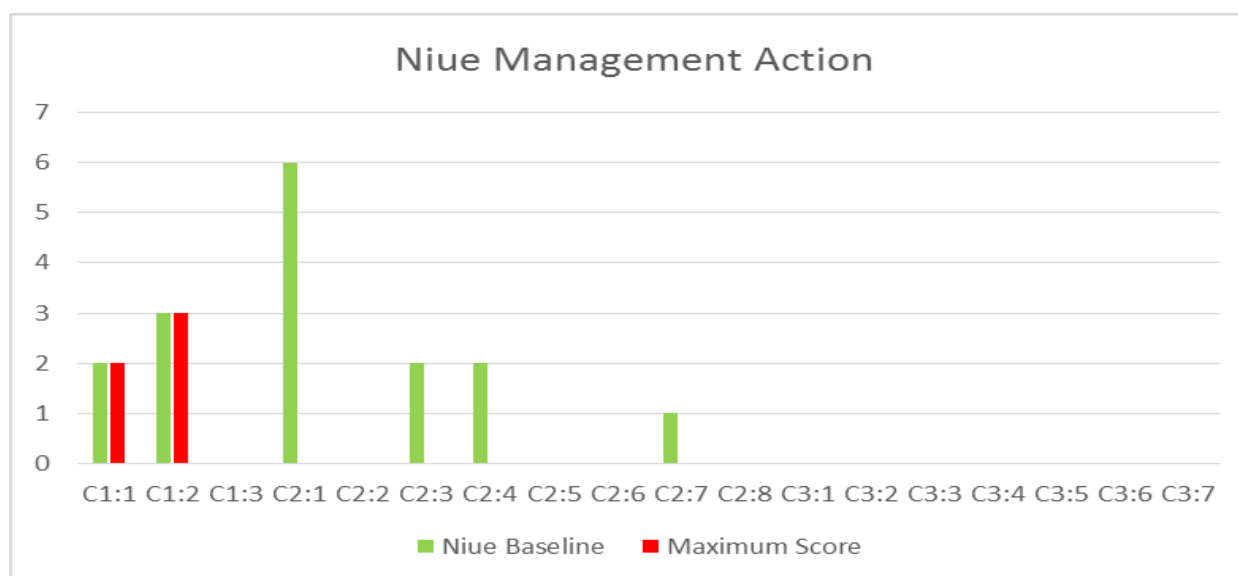
#### A. Foundations baseline



## B. Problem definition , prioritisation and decision making



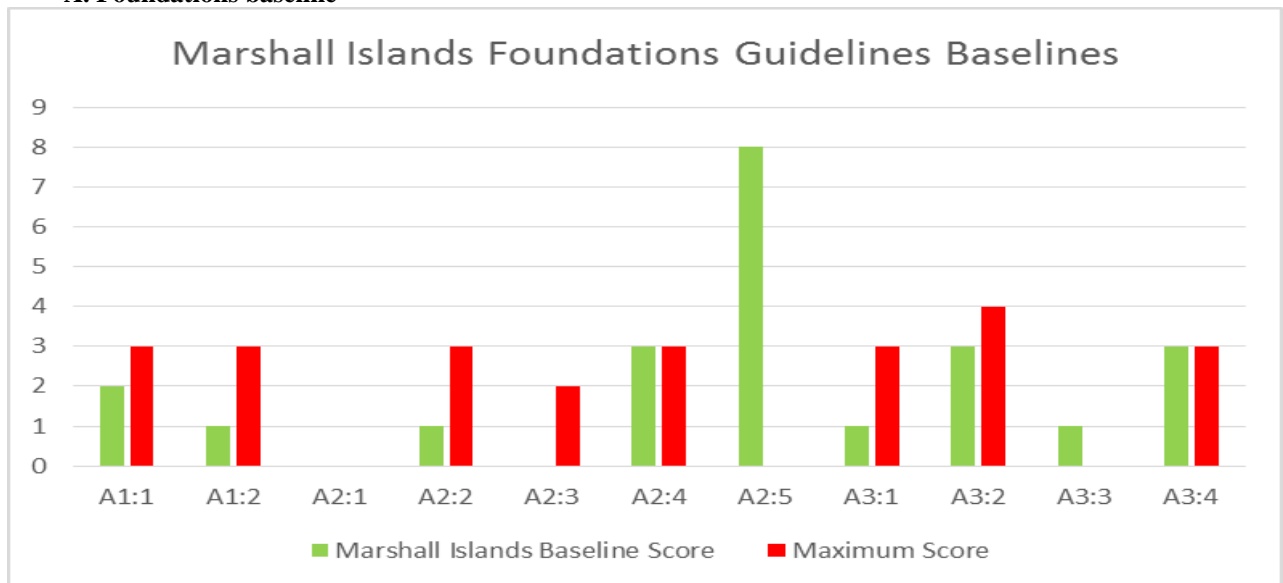
## C. Management action



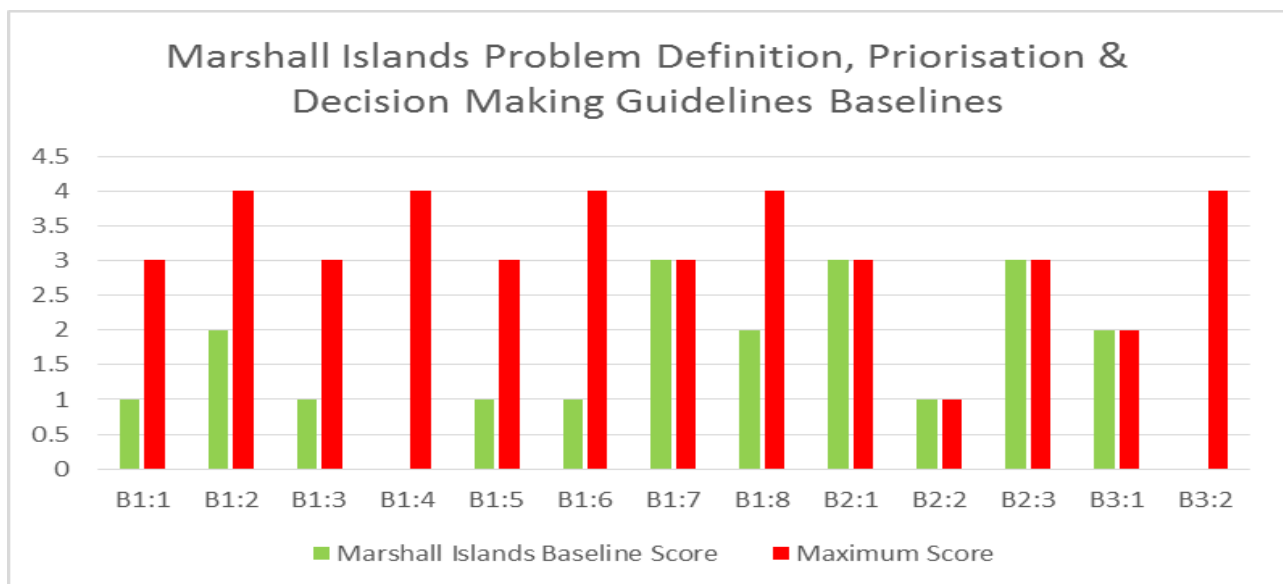
## Republic of Marshall Islands

- 28 At the time of consultation with the Marshall Islands Government the following analysis shows the level of scorecard attainment of RMI in the three principle components as described in the Guidelines and described for Tonga above:

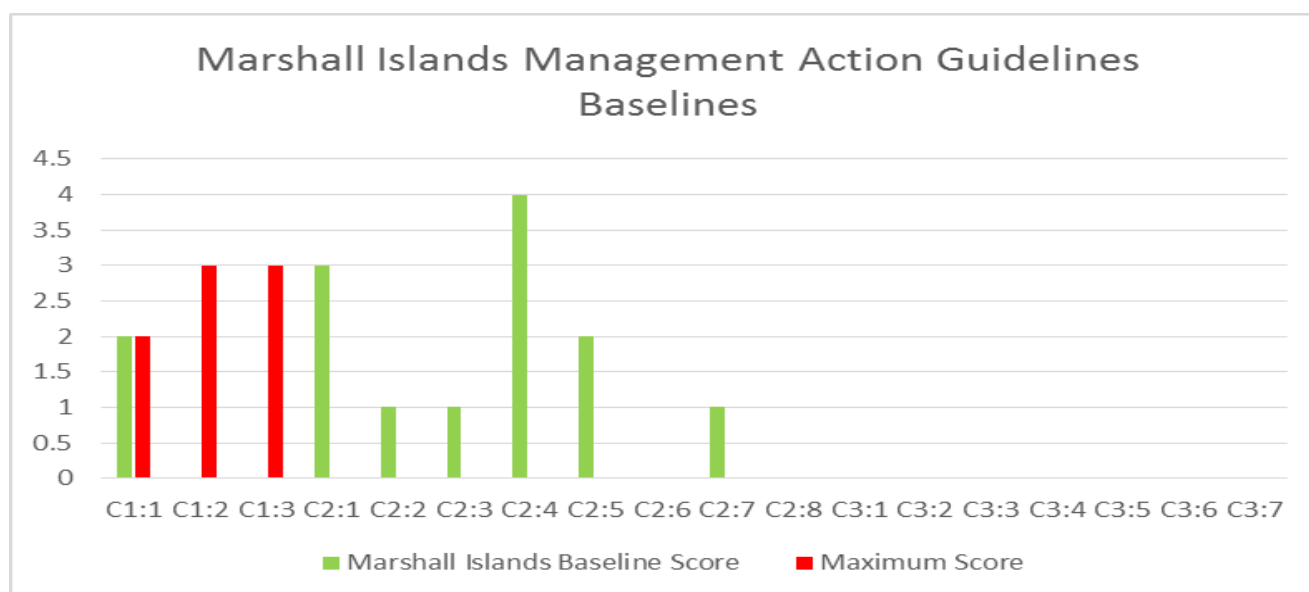
### A. Foundations baseline



### B. Problem definition, prioritisation and decision making



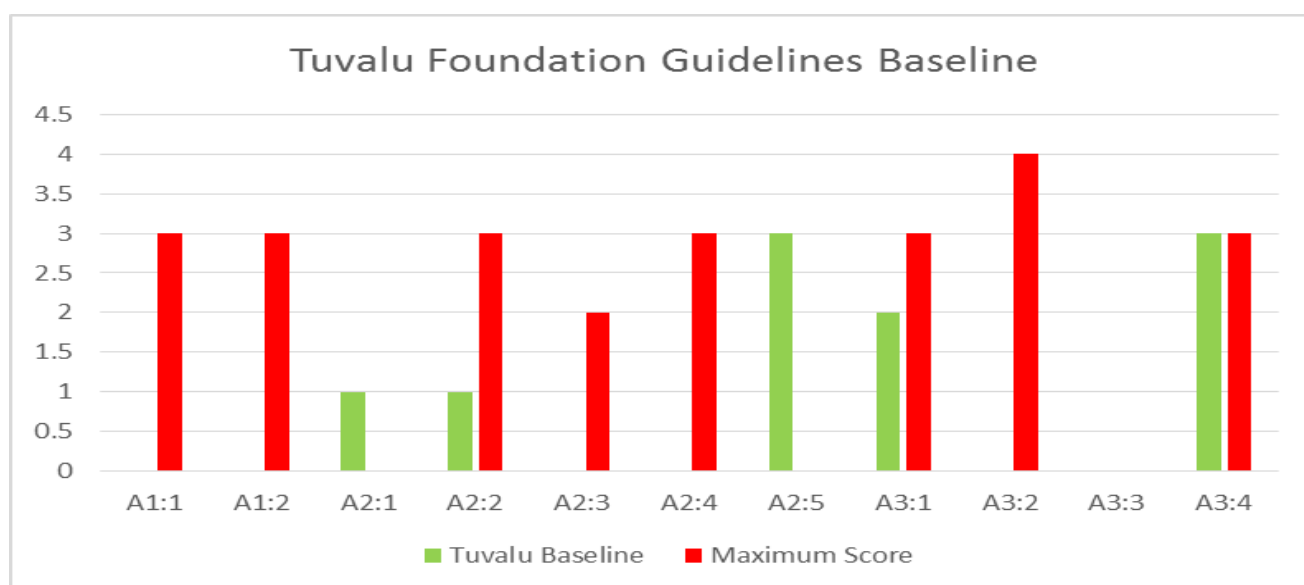
## C. Management action



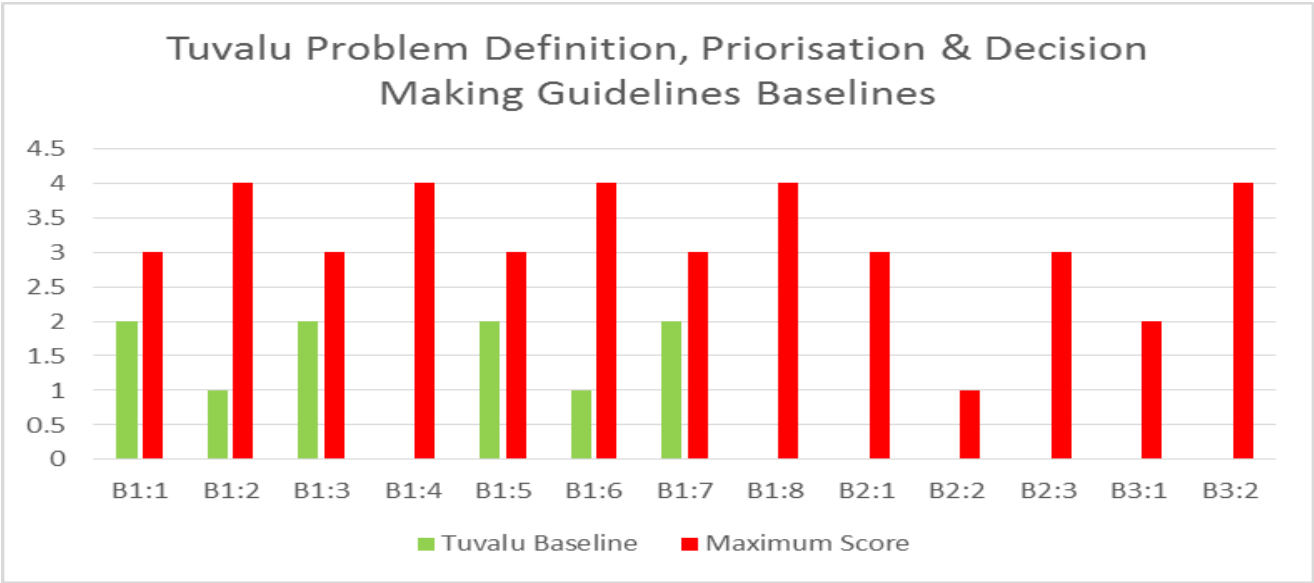
## Tuvalu

- 29 At the time of consultation with the Tuvaluan Government the following analysis shows the level of scorecard attainment of Tuvalu in the three principle components as described in the Guidelines and described for Tonga above:

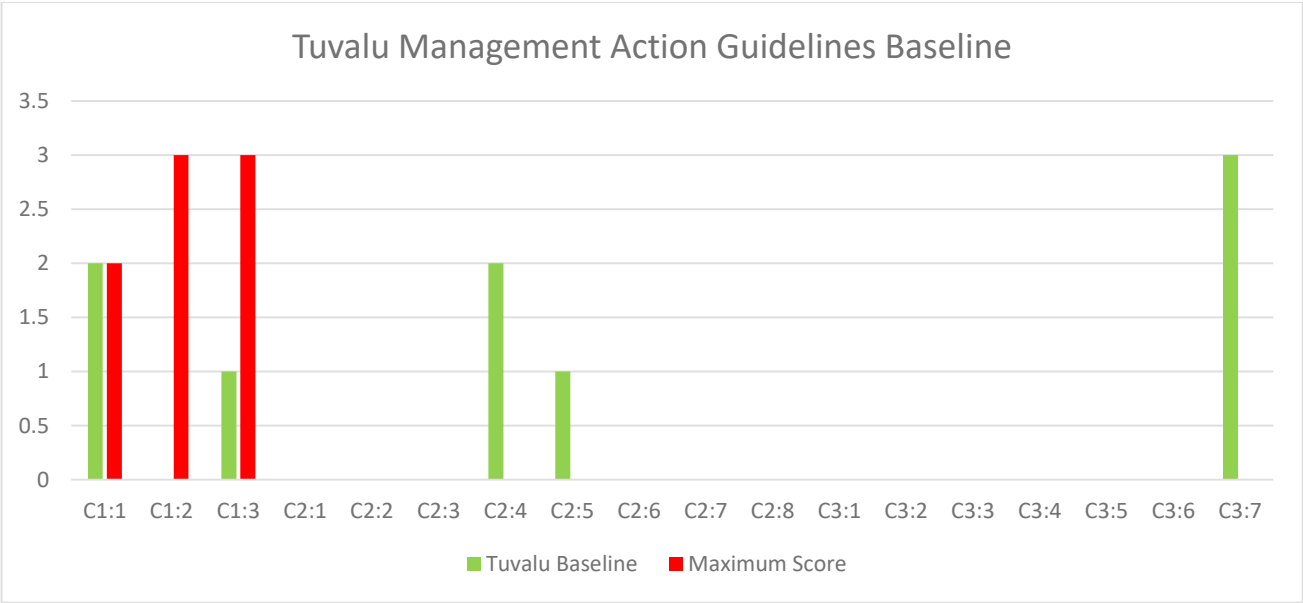
### 1. Foundations



**B. Problem definition, prioritisation and decision making**



**C. Management Action**





## *Appendix 20: IAS related resources in the Pacific*

**PACIFIC ISLANDS ROUNDTABLE FOR NATURE CONSERVATION (PIRNC)** Formed in 1997 at the request of Pacific Island Countries and Territories, PIRNC serves as a forum whereby organisations working on nature conservation in the Pacific can improve their collaboration and coordination to increase effective conservation action. In particular it is the coordination mechanism for the implementation of the Action Strategy for Nature Conservation in the Pacific Island Region 2008-2012. The Action Strategy was endorsed by SPREP members, and highlights the priority concerns for conservation in the Pacific region as well as outlining a roadmap for achieving the key goals. It is to be reviewed in December, 2013. PIRNC has a number of Working Groups, one of which addresses invasive species; the Pacific Invasives Partnership (PIP). PIP is the umbrella regional coordinating body for agencies working on invasive species in more than one country of the Pacific and promotes coordinated planning and assistance from regional and international agencies to meet the invasive species management needs of the countries and territories of the Pacific. Two regional programmes operate with the guidance and support of PIP:

**PACIFIC INVASIVES INITIATIVE (PII)** PII builds the invasive species management capacity of Pacific island countries and territories by providing technical support, training, assistance with proposal and project design, and links to expertise.

**PACIFIC INVASIVES LEARNING NETWORK (PILN)** PILN is a professional network for invasive species workers in the Pacific and organises skills and learning exchanges, workshops and meetings, and facilitates multi-sector invasives teams in countries.

**NIUE'S NATIONAL INVASIVE SPECIES STRATEGY AND ACTION PLAN • 2013–2020** 33

**INTERNATIONAL UNION FOR THE CONSERVATION OF NATURE (IUCN) – OCEANIA REGIONAL OFFICE** IUCN Oceania is working with like-minded organisations to contribute to the conservation of species and ecosystems in the Oceania region. Increasing awareness about the importance of species and the threats they are facing is crucial. The concept of “Investing in Nature” is central to this approach: too often, humans take other species and their day-to-day uses for granted. It is vital that investments in natural resources promote sustainable long-term use, management and conservation of the species we utilise in our everyday lives.

**HAWAII-PACIFIC WEED RISK ASSESSMENT** Hawai'i-Pacific Weed Risk Assessment (HPWRA) provides a free service. Professional botanists use published information to predict whether plants have a low-risk or high-risk of becoming invasive in Hawai'i or similar Pacific islands. The information is available on the Plant Pono website. (HPWRA receives funding from the Hawai'i Invasive Species Council and Plant Pono received funding for website development from the Kaulunani Urban and Community Forestry Program).

**INTERNATIONAL UNION FOR THE CONSERVATION OF NATURE (IUCN), SPECIES SURVIVAL COMMISSION (SSC), INVASIVE SPECIES SPECIALIST GROUP (ISSG)** The Invasive Species Specialist Group (ISSG) aims to reduce threats to natural ecosystems and the native species they contain by increasing awareness of invasive alien species, and of ways to prevent, control or eradicate them. ISSG is a major source of information on invasive species either through the Global Invasive Species Database (GISD) or by direct contact.

**GLOBAL INVASIVE SPECIES DATABASE (GISD)** The GISD focuses on alien species known to have negative impacts on native biodiversity and ecosystems. It features over 850 species profiles of some of the most harmful species. While there are taxon and geographical biases on selection of species (due to funding sources and priority themes) that are featured on the GISD, the Oceania region is well represented with a large number of harmful species listed. Other information extracted from the GISD included information on taxonomy, species organism type, common names, habitat type, biome, biostatus information and information on pathways of introduction and spread of these species.

**PACIFIC ISLAND ECOSYSTEMS AT RISK (PIER)** The PIER database is focused on plant species that are known to have been introduced to the Pacific region including the Pacific Rim. Information extracted from PIER included biostatus of alien species at island level, common names in Pacific languages, habitat information and most importantly links to risk assessments conducted for the Pacific region.

**CABI INVASIVE SPECIES COMPENDIUM (ISC)** CABI ISC is an encyclopaedic type of database on invasive alien species that impact biodiversity and livelihoods. CABI maintain compendia on Crop Protection, Forestry, Aquaculture and Animal Health and Production. The CABI ISC lists invasive species that impact biodiversity as well as pests of crops and pathogens. The focus for this project was on species that are known to impact biodiversity and ecosystems.

**NIUE'S NATIONAL INVASIVE SPECIES STRATEGY AND ACTION PLAN • 2013–2020**

**FISHBASE & SEALIFEBASE** FishBase and SeaLifeBase are databases focused on all fish species known to science. Data and information included in FishBase includes ecological information, information on traits and distribution at country and ecosystem level including in the introduced range of fish species in the aquatic system (both marine and freshwater). SeaLifeBase consists of similar information on marine species.

## 1.1 Conclusions

26. The Evaluator concludes that over the nearly 5 years the project has been running, it has resulted in significantly raising the profile of the threat invasive species pose to the environmental, economic and human well-being of the communities in the participating Pacific island countries and has strengthened the foundations for sustainable IAS management efforts. Through its Foundations component the project has been successful in addressing fundamental and badly needed institutional, policy and capacity issues at the national level in all of the countries. However it is noted that the disparity in available funding and human resources between the participating countries has meant that not all countries have benefitted from the project equally. Those countries which have performed most strongly are those where political support is strongest and staff involved with the project is the most stable. Nevertheless, the project's work to establish or strengthen national invasive species management coordination mechanisms, policy (in the form of NISAPPs, bio security regulations, EDRR protocols) and information management will influence the long term sustainability of its outcomes and have improved the generally weak baselines in place at project inception.
27. However, despite these gains and indications that the mainstreaming of IAS management is progressing, there remains work to be done to consolidate these gains in all countries especially those where the high turnover of staff and lack of a dedicated national level coordinator has conspired to reduce the overall impact of the project's work. There is no doubt that in the face of very poor initial resource levels, particularly funding, the project did very well to achieve the overall improvements in capacity that have enabled the successful achievement of project outputs. The improved institutional skills, access and linkages to networks for national project personnel together with the acquisition of new technical expertise was delivered at two levels; i) project management, including financial and administrative processes and, ii) technical assistance for practical IAS prevention and control field operations. Of critical importance now is the need to continue building the capacity and confidence of key personnel in the participating countries and be prepared to undertake repeat training and mentoring as IAS personnel move on. Much more needs to be done in this area as there remains a very heavy dependence on the regional capacity support mechanisms. It is therefore crucial that SPREP and its IAS regional partners are able to maintain and strengthen the support network which has been built by the project.
28. While much has been achieved in the areas of institutional strengthening and building capacity, it is concluded that the project has also been very successful in its execution of numerous national pilot or demonstration projects. Without doubt the momentum built around these activities has been a major factor in garnering public and government support for IAS management by demonstrating the tangible results of employing best practices in plant and animal eradication and the restoration of ecosystems and habitats. The sub projects have also been instrumental in engaging other stakeholders and broadening the support base and technical experience available in most of the participating countries. When assessed against the status of IAS management at the inception of the project, the Evaluator concludes that the project has been very successful in progressing IAS prevention, control and management in the participating countries and in strengthening the regional support systems. However, the momentum generated is at risk of stalling unless there is continuing investment in maintaining a regional support network to continue capacity building, maintain the profile of IAS in the region and with it government support, and importantly, continue to stimulate and support priority eradication and control activities.

**Table 14: Summary of Evaluation criteria, assessment and ratings**

| Criterion   | Summary Assessment | Ref.  | Rating |
|---|--------------------|-------|--------|
| A. Strategic relevance  |                    | 3.1   | HS     |
| B. Achievement of outputs   |                    | 3.2   | HS     |
| C. Effectiveness: Attainment of objectives and planned results        |                    | 3.3   | S      |
| 1. Achievement of direct outcomes as defined in the reconstructed TOC |                    | 3.3.1 | S      |

| Criterion   | Summary Assessment | Ref.  | Rating   |
|---|--------------------|-------|----------|
| 2. Likelihood of impact using ROtI approach                                       |                    | 3.3.2 | HL       |
| 3. Achievement of formal project objectives as presented in the Project Document. |                    | 3.3.3 | S        |
| D. Sustainability of Outcomes   |                    |       | L        |
| 1. Socio-political sustainability   |                    | 3.4.1 | HL       |
| 2. Financial resources  |                    | 3.4.2 | L        |
| 3. Institutional framework  |                    | 3.4.3 | HL       |
| 4. Environmental sustainability   |                    | 3.4.4 | ML       |
| 5. Catalytic role and replication   |                    | 3.4.5 | S        |
| E. Efficiency   |                    | 3.5   | S        |
| F. Factors affecting project performance  |                    |       |          |
| 1. Preparation and readiness  |                    | 3.6.1 | U        |
| 2. Project implementation and management  |                    | 3.6.2 | S        |
| 3. Stakeholders participation, cooperation and partnerships                       |                    | 3.6.3 | S        |
| 4. Communication and public awareness   |                    | 3.6.4 | HS       |
| 5. Country ownership and driven-ness  |                    | 3.6.5 | S        |
| 6. Financial planning and management  |                    | 3.6.6 | S        |
| 7. Supervision, guidance and technical backstopping                               |                    | 3.6.7 | HS       |
| 8. Monitoring and evaluation  |                    | 3.6.8 | S        |
| i. M&E design   |                    | 3.6.8 | S        |
| ii. M&E plan implementation   |                    | 3.6.8 | S        |
| <b>Overall project rating</b>   |                    |       | <b>S</b> |

## 1.2 Recommendations

29. The following are the main recommendations that have been generated from the evaluation findings:

Context: (Important)

Maintaining and expanding the regional support services and network built by the project is critical to being able to maintain the momentum generated by the project (and the UNEP/GEF investment) and ensuring the outcomes will be fully achieved over time. (3.2.1) The IAS project got away to a slow start and difficulties were experienced in recruiting suitable individuals as National Project Coordinators. Once recruitment was completed it became clear that a high level of project management and technical support was required to build the capability of these and other national staff involved in project implementation, if the project was to be successful. Once funds became available mid-way through the project, the EA set about developing a regional support network to deliver technical and managerial services and support to the national programmes. The investment in the network

|                        |  |
|------------------------|--|
|                        | and its service delivery boosted project productivity significantly and led to improved capacity and capability across the participating countries.  |
| Recommendation #1      | That UNEP strongly encourages SPREP and other regional (CROP) organisations with IAS mandates such as SPC with its bio-security focus, to collaborate with partners such as the Pacific Invasives Partnership and the Pacific Invasives Learning Network (PILN) to undertake a review of the current regional IAS support network with a view to designing and institutionalising a coordinated support service within the core operations of SPREP and SPC. The service will be formally linked with key regional IAS partners and institutions and the design should include options for sustainable funding mechanisms for both the service and long term regional IAS support.   |
| Responsibility:        | UNEP Pacific sub-regional office with support from UN Environment Programme, Nairobi.  |
| Time-frame:            | Design phase for follow-on project under GEF 6.  |
| Context: (Improvement) | The regional allocation and use of GEF funds are a critically important and reliable funding source for environmental and biodiversity conservation (including IAS) management in the region. While it is clear that countries make their own decisions on funding priorities, they can be and are influenced by the views of the UN and Regional agencies working in the region. As the UN Agency responsible for the global environmental mandate and a major GEF implementing agency, UNEP plays an important role in the region as an advocate for environmental and ecosystem/biodiversity management programmes and a working partner with Pacific countries and regional agencies, especially SPREP. (3.4.2)  |
| Recommendation #2      | The Evaluator notes the observations of several interviewees both government and partners on the relative low level of capacity employed by UNEP in the region and suggestions this needs to be strengthened in order to ensure UNEP can engage effectively with regional partners and Pacific island governments in the advocacy of its environmental and ecosystem management programmes and the development of collaborative projects and funding initiatives. To this end it is recommended that UNEP undertake a strategic appraisal of its role in the region and related capacity requirements, including giving consideration to the relocation of technical positions currently located in the Asia Pacific regional office which have direct relevance to high priority issues for Pacific Governments such as climate change, ecosystem management, waste and chemical management and environmental governance. |
| Responsibility:        | UNEP Higher management   |
| Time-frame:            | Within 12 months.  |

### 1.3 Lessons Learned

30. The following is a summary of the main lessons that have been learned from some of the project's successes as well challenges:

|          |  |
|----------|--|
| Context: | The majority of participating countries required substantial support, mentoring and technical assistance as well as assistance with financial and reporting processes. Assessment of the project indicates that those countries where assistance and support was actively sought and valued have performed the strongest in terms of delivering outputs and contributing to project outcomes. Initially SPREP as the EA struggled to provide the levels of support needed with the |
|----------|--|

|              |  |
|--------------|--|
|              | <p>very limited resources allocated in the project budget for this crucial role. However, this situation significantly improved around the mid-point of the project when funding ear marked for Papua New Guinea was reallocated to intensified regional support activities. This provided new momentum and was a critical factor in the eventual success of the project and its remarkable achievements in terms of delivery of outputs and outcomes.</p>   |
| Lesson # 1:  | <p>It is critical in the design stages of projects of this scope and magnitude in the Pacific region to realistically assess the capacity and capability of the participating countries and understand the likely level of management and technical support which will be needed from the Executing Agency. Negotiation with the participating countries to ensure a realistic budget is allocated for regional support operations is essential to ensure regional back up is available to support and build project management capacity and successful implementation of national level.</p>  |
| Application: | <p>This lesson applies to the development of all regionally executed multi- country projects with a national implementation and capacity building focus and goals.</p>   |
| Context:     | <p>Project design emphasises national implementation and was very dependent on the effectiveness and capability and commitment of the national coordinators. Consequently, the selection (non-selection) of suitable candidates had an important influence on the project. The project performed the strongest in those countries where the project coordinator was appointed to a full time position from the outset and exhibited a good understanding of the importance of IAS management, commitment and dedication to the coordination role, a willingness to learn and pass that knowledge on and a great deal of motivation. All too often in the Pacific, government agencies operating on financially constrained budgets have insufficient staff to meet their obligations and consequently load available staff (including contracted project staff) with additional responsibilities at the expense of their primary duties. Several countries that did not dedicate a full time national Coordinator did not perform as well due to these competing duties. A related issue was the high turnover of National Coordinators resulting in a loss of capacity and project knowledge, necessitating retraining.</p> |
| Lesson # 2:  | <p>The selection of the best possible National Project Coordinators is critical to the overall success of these projects and has a major bearing on the effective implementation of national project activities. For these reasons project management should strive to work closely with participating countries in the recruitment process to ensure the selection of National Coordinators is carried out as objectively as possible. Careful consideration should be given to whether candidates meet clear selection criteria including qualifications, experience and importantly, an interest in the project's thematic focus and objectives. Ideally all National Coordinators would be appointed in advance of the inception process so they may contribute to, and learn from that important process.</p>   |
| Application: | <p>This lesson applies to the development and management of all regionally executed multi- country projects especially where strong national coordination and management capacity is critical to success.</p>  |
| Context:     | <p>The project invested heavily in building the capacity of Invasive Alien Species (IAS) management staff in the participating countries and particularly that of the national coordinators who were crucial to the implementation of the project. The knowledge and experience gained is of great value to governments serious about addressing their IAS issues. It is very important to try to retain these people in permanent government positions and the continued post project involvement of National Coordinators is one measure of the sustainability and national commitment to IAS management. Countries which performed strongly throughout the project recognised that success is dependent on building human capacity over time. Importantly, they were successful retaining the services of the National Coordinator over the life of the project. Further they have expressed the value they</p>   |

|               |  |
|---------------|--|
| Lesson # 3    | <p>place on the individual and having national IAS capacity by arranging for transition to an established a permanent position on the close of the project.</p> <p>Retention of trained staff will always be an important factor in sustaining the capacity gains generated by projects so during the design (PPG) phase of multi country projects efforts should be made by Executing Agencies to negotiate incentives for the post -project retention of national staff trained under the project in permanent positions. Ideally, Government agencies should be encouraged to commit long term to these positions as a matter of policy, even if the decision to do so is reflected as one of "best endeavour". In view of their interest in seeing long term improvements in capacity, these negotiations should be undertaken with the support of Implementing Agencies and donors.</p> <p>The design (PPG) phase of projects with national coordinating and technical application roles embedded in participating countries.</p>   |
| Applicability |  |
| Context       | <p>In its initial stages and in several countries, the IAS project struggled to effectively establish the progress and financial reporting processes required to meet UNEP and GEF standards. Adjusting to the requirements of these new reporting systems which required strict adherence to protocols prescribed by the Implementing and Executing Agencies (to meet donor required standards) proved problematic and frustrating for some countries and delayed project implementation. In such situations, adoption of a flexible and adaptive approach by Project Management together with the provision of project management training and support will create goodwill between project management and the countries concerned and lay a cooperative foundation for efficient and effective reporting throughout the project's life.</p>   |
| Lesson# 4     | <p>IA's and EA's need to be pragmatic and flexible in assessing the project management training and support needed to ensure that efficient and effective reporting can be achieved throughout the project's life. This needs to be built into the budget and outputs of the project and if linked with the security of tenure issue addressed in recommendation 3 above, could significantly improve the efficiency and effectiveness of project management. If this capacity and capability is not established early, reporting issues will lead to tension between the parties and delays in project implementation. Preferably the extent of project management training and support needed will be identified prior to inception and an appropriate training and support programme will be negotiated with the countries concerned. Open and constructive dialogue greatly assists this process and may also lead to countries which don't initially have the capacity to manage project finances devolving that responsibility to the Executing Agency until such time as the required capacity is in place.</p> |
| Applicability | <p>Where feedback from participating countries identifies the need for intensive training in project financial and management reporting systems.</p>   |
| Context:      | <p>Lengthy delays in establishing the project management and implementation structures for GEF (and other donor) projects, especially those involving multiple countries are a common occurrence in the Pacific region. Inevitably, project designers either under estimate the time this requires and or the capacity available to meet these needs resulting in projects lagging behind in their early phases as happened with the IAS project.</p>  |
| Lesson # 5.   | <p>The lesson here is that project design needs to be based on a realistic assessment of these start up factors and allow sufficient time to get partners signed up, staff recruited and trained and funds moved to the correct recipients. All project stakeholders must recognise these realities and be prepared to extend time frames accordingly, even by a year if necessary.</p>  |
| Applicability | <p>The design phase of GRF projects, particularly multi-country projects in the Pacific region.</p>  |

Appendix 22: GEF 7 Taxonomy

**GEF 7 TAXONOMY**

**Annex C**

Please identify the taxonomic information required in Part I, Item G by ticking the most relevant keywords/ topics/themes that best describe the project.

| Level 1   | Level 2  | Level 3   | Level 4 |
|---|--|---|---------|
| <input checked="" type="checkbox"/> <b>Influencing models</b>               |  |   |         |
|   | <input checked="" type="checkbox"/> <b>Transform policy and regulatory environments</b>          |   |         |
|   | <input checked="" type="checkbox"/> <b>Strengthen institutional capacity and decision-making</b> |   |         |
|   | <input checked="" type="checkbox"/> <b>Convene multi-stakeholder alliances</b>                   |   |         |
|   | <input checked="" type="checkbox"/> <b>Demonstrate innovative approaches</b>                     |   |         |
|   | <input type="checkbox"/> <b>Deploy innovative financial instruments</b>                          |   |         |
| <input checked="" type="checkbox"/> <b>Stakeholders</b>                     |  |   |         |
|   | <input checked="" type="checkbox"/> <b>Indigenous Peoples</b>                                    |   |         |
|   | <input checked="" type="checkbox"/> <b>Private Sector</b>  |   |         |
|   |  | <input type="checkbox"/> Capital providers                                |         |
|   |  | <input type="checkbox"/> Financial intermediaries and market facilitators |         |
|   |  | <input type="checkbox"/> Large corporations                               |         |
|   |  | <input checked="" type="checkbox"/> SMEs                                  |         |
|   |  | <input type="checkbox"/> Individuals/Entrepreneurs                        |         |
|   |  | <input type="checkbox"/> Non-Grant Pilot                                  |         |
|   |  | <input type="checkbox"/> Project Reflow                                   |         |
|   | <input checked="" type="checkbox"/> <b>Beneficiaries</b>   |   |         |
|   | <input checked="" type="checkbox"/> <b>Local Communities</b>                                     |   |         |
|   | <input checked="" type="checkbox"/> <b>Civil Society</b>   |   |         |
|   |  | <input checked="" type="checkbox"/> Community Based Organization          |         |
|   |  | <input checked="" type="checkbox"/> Non-Governmental Organization         |         |
|   |  | <input checked="" type="checkbox"/> Academia                              |         |
|   |  | <input type="checkbox"/> Trade Unions and Workers Unions                  |         |
|   | <input checked="" type="checkbox"/> <b>Type of Engagement</b>                                    |   |         |
|   |  | <input checked="" type="checkbox"/> Information Dissemination             |         |
|   |  | <input checked="" type="checkbox"/> Partnership                           |         |
|   |  | <input checked="" type="checkbox"/> Consultation                          |         |
|   |  | <input checked="" type="checkbox"/> Participation                         |         |
|   | <input checked="" type="checkbox"/> <b>Communications</b>  |   |         |
|   |  | <input checked="" type="checkbox"/> Awareness Raising                     |         |
|   |  | <input checked="" type="checkbox"/> Education                             |         |
|   |  | <input checked="" type="checkbox"/> Public Campaigns                      |         |
|   |  | <input checked="" type="checkbox"/> Behavior Change                       |         |
| <input checked="" type="checkbox"/> <b>Capacity, Knowledge and Research</b> |  |   |         |
|   | <input type="checkbox"/> <b>Enabling Activities</b>  |   |         |
|   | <input checked="" type="checkbox"/> <b>Capacity Development</b>                                  |   |         |
|   | <input checked="" type="checkbox"/> <b>Knowledge Generation and Exchange</b>                     |   |         |
|   | <input type="checkbox"/> <b>Targeted Research</b>  |   |         |
|   | <input checked="" type="checkbox"/> <b>Learning</b>  |   |         |
|   |  | <input checked="" type="checkbox"/> Theory of Change                      |         |
|   |  | <input checked="" type="checkbox"/> Adaptive Management                   |         |
|   |  | <input type="checkbox"/> Indicators to Measure Change                     |         |
|   | <input checked="" type="checkbox"/> <b>Innovation</b>  |   |         |

|   |   |   |   |
|---|---|---|---|
|   | <input checked="" type="checkbox"/> Knowledge and Learning      |   |   |
|   |   | <input checked="" type="checkbox"/> Knowledge Management                                  |   |
|   |   | <input checked="" type="checkbox"/> Innovation  |   |
|   |   | <input checked="" type="checkbox"/> Capacity Development                                  |   |
|   |   | <input checked="" type="checkbox"/> Learning  |   |
|   | <input checked="" type="checkbox"/> Stakeholder Engagement Plan |   |   |
| <input checked="" type="checkbox"/> Gender Equality   | <input checked="" type="checkbox"/> Gender Mainstreaming        |   |   |
|   |   | <input checked="" type="checkbox"/> Beneficiaries   |   |
|   |   | <input checked="" type="checkbox"/> Women groups  |   |
|   |   | <input checked="" type="checkbox"/> Sex-disaggregated indicators                          |   |
|   |   | <input checked="" type="checkbox"/> Gender-sensitive indicators                           |   |
|   | <input checked="" type="checkbox"/> Gender results areas        |   |   |
|   |   | <input checked="" type="checkbox"/> Access and control over natural resources             |   |
|   |   | <input type="checkbox"/> Participation and leadership                                     |   |
|   |   | <input type="checkbox"/> Access to benefits and services                                  |   |
|   |   | <input checked="" type="checkbox"/> Capacity development                                  |   |
|   |   | <input checked="" type="checkbox"/> Awareness raising                                     |   |
|   |   | <input checked="" type="checkbox"/> Knowledge generation                                  |   |
| <input checked="" type="checkbox"/> Focal Areas/Theme |   |   |   |
|   | <input type="checkbox"/> Integrated Programs                    |   |   |
|   |   | <input type="checkbox"/> Commodity Supply Chains ( <sup>19</sup> Good Growth Partnership) |   |
|   |   |   | <input type="checkbox"/> Sustainable Commodities Production         |
|   |   |   | <input type="checkbox"/> Deforestation-free Sourcing                |
|   |   |   | <input type="checkbox"/> Financial Screening Tools                  |
|   |   |   | <input checked="" type="checkbox"/> High Conservation Value Forests |
|   |   |   | <input type="checkbox"/> High Carbon Stocks Forests                 |
|   |   |   | <input type="checkbox"/> Soybean Supply Chain                       |
|   |   |   | <input type="checkbox"/> Oil Palm Supply Chain                      |
|   |   |   | <input type="checkbox"/> Beef Supply Chain                          |
|   |   |   | <input checked="" type="checkbox"/> Smallholder Farmers             |
|   |   |   | <input checked="" type="checkbox"/> Adaptive Management             |
|   |   | <input type="checkbox"/> Food Security in Sub-Saharan Africa                              |   |
|   |   |   | <input type="checkbox"/> Resilience (climate and shocks)            |
|   |   |   | <input type="checkbox"/> Sustainable Production Systems             |
|   |   |   | <input type="checkbox"/> Agroecosystems                             |
|   |   |   | <input type="checkbox"/> Land and Soil Health                       |
|   |   |   | <input type="checkbox"/> Diversified Farming                        |
|   |   |   | <input type="checkbox"/> Integrated Land and Water Management       |
|   |   |   | <input type="checkbox"/> Smallholder Farming                        |
|   |   |   | <input type="checkbox"/> Small and Medium Enterprises               |
|   |   |   | <input type="checkbox"/> Crop Genetic Diversity                     |
|   |   |   | <input type="checkbox"/> Food Value Chains                          |
|   |   |   | <input type="checkbox"/> Gender Dimensions                          |
|   |   |   | <input type="checkbox"/> Multi-stakeholder Platforms                |
|   |   | <input type="checkbox"/> Food Systems, Land Use and Restoration                           |   |
|   |   |   | <input type="checkbox"/> Sustainable Food Systems                   |
|   |   |   | <input type="checkbox"/> Landscape Restoration                      |
|   |   |   | <input type="checkbox"/> Sustainable Commodity Production           |
|   |   |   | <input type="checkbox"/> Comprehensive Land Use Planning            |
|   |   |   | <input type="checkbox"/> Integrated Landscapes                      |
|   |   |   | <input type="checkbox"/> Food Value Chains                          |



|  |  |   |
|--|--|---|
|  |  | <input type="checkbox"/> Deforestation-free Sourcing                            |
|  |  | <input type="checkbox"/> Smallholder Farmers                                    |
|  | <input type="checkbox"/> Sustainable Cities                        |   |
|  |  | <input type="checkbox"/> Integrated urban planning                              |
|  |  | <input type="checkbox"/> Urban sustainability framework                         |
|  |  | <input type="checkbox"/> Transport and Mobility                                 |
|  |  | <input type="checkbox"/> Buildings  |
|  |  | <input type="checkbox"/> Municipal waste management                             |
|  |  | <input type="checkbox"/> Green space  |
|  |  | <input type="checkbox"/> Urban Biodiversity                                     |
|  |  | <input type="checkbox"/> Urban Food Systems                                     |
|  |  | <input type="checkbox"/> Energy efficiency                                      |
|  |  | <input type="checkbox"/> Municipal Financing                                    |
|  |  | <input type="checkbox"/> Global Platform for Sustainable Cities                 |
|  |  | <input type="checkbox"/> Urban Resilience                                       |
|  | <input checked="" type="checkbox"/> Biodiversity                   |   |
|  | <input checked="" type="checkbox"/> Protected Areas and Landscapes |   |
|  |  | <input checked="" type="checkbox"/> Terrestrial Protected Areas                 |
|  |  | <input checked="" type="checkbox"/> Coastal and Marine Protected Areas          |
|  |  | <input checked="" type="checkbox"/> Productive Landscapes                       |
|  |  | <input type="checkbox"/> Productive Seascapes                                   |
|  |  | <input checked="" type="checkbox"/> Community Based Natural Resource Management |
|  | <input checked="" type="checkbox"/> Mainstreaming                  |   |
|  |  | <input type="checkbox"/> Extractive Industries (oil, gas, mining)               |
|  |  | <input checked="" type="checkbox"/> Forestry (Including HCVF and REDD+)         |
|  |  | <input type="checkbox"/> Tourism  |
|  |  | <input checked="" type="checkbox"/> Agriculture & agrobiodiversity              |
|  |  | <input type="checkbox"/> Fisheries  |
|  |  | <input type="checkbox"/> Infrastructure   |
|  |  | <input type="checkbox"/> Certification (National Standards)                     |
|  |  | <input type="checkbox"/> Certification (International Standards)                |
|  | <input checked="" type="checkbox"/> Species                        |   |
|  |  | <input type="checkbox"/> Illegal Wildlife Trade                                 |
|  |  | <input checked="" type="checkbox"/> Threatened Species                          |
|  |  | <input type="checkbox"/> Wildlife for Sustainable Development                   |
|  |  | <input type="checkbox"/> Crop Wild Relatives                                    |
|  |  | <input type="checkbox"/> Plant Genetic Resources                                |
|  |  | <input type="checkbox"/> Animal Genetic Resources                               |
|  |  | <input type="checkbox"/> Livestock Wild Relatives                               |
|  |  | <input checked="" type="checkbox"/> Invasive Alien Species (IAS)                |
|  | <input checked="" type="checkbox"/> Biomes                         |   |
|  |  | <input checked="" type="checkbox"/> Mangroves                                   |
|  |  | <input checked="" type="checkbox"/> Coral Reefs                                 |
|  |  | <input type="checkbox"/> Sea Grasses  |
|  |  | <input type="checkbox"/> Wetlands   |
|  |  | <input type="checkbox"/> Rivers   |
|  |  | <input type="checkbox"/> Lakes  |
|  |  | <input checked="" type="checkbox"/> Tropical Rain Forests                       |
|  |  | <input type="checkbox"/> Tropical Dry Forests                                   |
|  |  | <input type="checkbox"/> Temperate Forests                                      |
|  |  | <input type="checkbox"/> Grasslands   |
|  |  | <input type="checkbox"/> Paramo   |
|  |  | <input type="checkbox"/> Desert   |
|  | <input type="checkbox"/> Financial and Accounting                  |   |
|  |  | <input type="checkbox"/> Payment for Ecosystem Services                         |
|  |  | <input type="checkbox"/> Natural Capital Assessment and Accounting              |

|  |   |  |  |
|--|---|--|--|
|  |   |  | <input type="checkbox"/> Conservation Trust Funds                              |
|  |   |  | <input type="checkbox"/> Conservation Finance                                  |
|  |   | <input type="checkbox"/> Supplementary Protocol to the CBD                                       |  |
|  |   |  | <input type="checkbox"/> Biosafety   |
|  |   |  | <input type="checkbox"/> Access to Genetic Resources Benefit Sharing           |
|  | <input checked="" type="checkbox"/> Forests   |  |  |
|  |   | <input checked="" type="checkbox"/> Forest and Landscape Restoration                             |  |
|  |   |  | <input type="checkbox"/> REDD/REDD+  |
|  |   | <input type="checkbox"/> Forest  |  |
|  |   |  | <input type="checkbox"/> Amazon  |
|  |   |  | <input type="checkbox"/> Congo   |
|  |   |  | <input type="checkbox"/> Drylands  |
|  | <input type="checkbox"/> Land Degradation     |  |  |
|  |   | <input type="checkbox"/> Sustainable Land Management   |  |
|  |   |  | <input type="checkbox"/> Restoration and Rehabilitation of Degraded Lands      |
|  |   |  | <input type="checkbox"/> Ecosystem Approach                                    |
|  |   |  | <input type="checkbox"/> Integrated and Cross-sectoral approach                |
|  |   |  | <input type="checkbox"/> Community-Based NRM                                   |
|  |   |  | <input type="checkbox"/> Sustainable Livelihoods                               |
|  |   |  | <input type="checkbox"/> Income Generating Activities                          |
|  |   |  | <input type="checkbox"/> Sustainable Agriculture                               |
|  |   |  | <input type="checkbox"/> Sustainable Pasture Management                        |
|  |   |  | <input type="checkbox"/> Sustainable Forest/Woodland Management                |
|  |   |  | <input type="checkbox"/> Improved Soil and Water Management Techniques         |
|  |   |  | <input type="checkbox"/> Sustainable Fire Management                           |
|  |   |  | <input type="checkbox"/> Drought Mitigation/Early Warning                      |
|  |   | <input type="checkbox"/> Land Degradation Neutrality   |  |
|  |   |  | <input type="checkbox"/> Land Productivity                                     |
|  |   |  | <input type="checkbox"/> Land Cover and Land cover change                      |
|  |   |  | <input type="checkbox"/> Carbon stocks above or below ground                   |
|  |   | <input type="checkbox"/> Food Security   |  |
|  | <input type="checkbox"/> International Waters |  |  |
|  |   | <input type="checkbox"/> Ship  |  |
|  |   | <input type="checkbox"/> Coastal   |  |
|  |   | <input type="checkbox"/> Freshwater  |  |
|  |   |  | <input type="checkbox"/> Aquifer   |
|  |   |  | <input type="checkbox"/> River Basin   |
|  |   |  | <input type="checkbox"/> Lake Basin  |
|  |   | <input type="checkbox"/> Learning  |  |
|  |   | <input type="checkbox"/> Fisheries   |  |
|  |   | <input type="checkbox"/> Persistent toxic substances   |  |
|  |   | <input type="checkbox"/> SIDS : Small Island Dev States  |  |
|  |   | <input type="checkbox"/> Targeted Research   |  |
|  |   | <input type="checkbox"/> Pollution   |  |
|  |   |  | <input type="checkbox"/> Persistent toxic substances                           |
|  |   |  | <input type="checkbox"/> Plastics  |
|  |   |  | <input type="checkbox"/> Nutrient pollution from all sectors except wastewater |
|  |   |  | <input type="checkbox"/> Nutrient pollution from Wastewater                    |
|  |   | <input type="checkbox"/> Transboundary Diagnostic Analysis and Strategic Action Plan preparation |  |
|  |   | <input type="checkbox"/> Strategic Action Plan Implementation                                    |  |

|  |   |  |
|--|---|--|
|  | <input type="checkbox"/> Areas Beyond National Jurisdiction                       |  |
|  | <input type="checkbox"/> Large Marine Ecosystems                                  |  |
|  | <input type="checkbox"/> Private Sector   |  |
|  | <input type="checkbox"/> Aquaculture  |  |
|  | <input type="checkbox"/> Marine Protected Area                                    |  |
|  | <input type="checkbox"/> Biomes   |  |
|  |   | <input type="checkbox"/> Mangrove                                |
|  |   | <input type="checkbox"/> Coral Reefs                             |
|  |   | <input type="checkbox"/> Seagrasses                              |
|  |   | <input type="checkbox"/> Polar Ecosystems                        |
|  |   | <input type="checkbox"/> Constructed Wetlands                    |
|  | <input type="checkbox"/> Chemicals and Waste                                      |  |
|  | <input type="checkbox"/> Mercury  |  |
|  | <input type="checkbox"/> Artisanal and Scale Gold Mining                          |  |
|  | <input type="checkbox"/> Coal Fired Power Plants                                  |  |
|  | <input type="checkbox"/> Coal Fired Industrial Boilers                            |  |
|  | <input type="checkbox"/> Cement   |  |
|  | <input type="checkbox"/> Non-Ferrous Metals Production                            |  |
|  | <input type="checkbox"/> Ozone  |  |
|  | <input type="checkbox"/> Persistent Organic Pollutants                            |  |
|  | <input type="checkbox"/> Unintentional Persistent Organic Pollutants              |  |
|  | <input type="checkbox"/> Sound Management of chemicals and Waste                  |  |
|  | <input type="checkbox"/> Waste Management   |  |
|  |   | <input type="checkbox"/> Hazardous Waste Management              |
|  |   | <input type="checkbox"/> Industrial Waste                        |
|  |   | <input type="checkbox"/> e-Waste                                 |
|  | <input type="checkbox"/> Emissions  |  |
|  | <input type="checkbox"/> Disposal   |  |
|  | <input type="checkbox"/> New Persistent Organic Pollutants                        |  |
|  | <input type="checkbox"/> Polychlorinated Biphenyls                                |  |
|  | <input type="checkbox"/> Plastics   |  |
|  | <input type="checkbox"/> Eco-Efficiency   |  |
|  | <input type="checkbox"/> Pesticides   |  |
|  | <input type="checkbox"/> DDT - Vector Management                                  |  |
|  | <input type="checkbox"/> DDT - Other  |  |
|  | <input type="checkbox"/> Industrial Emissions                                     |  |
|  | <input type="checkbox"/> Open Burning   |  |
|  | <input type="checkbox"/> Best Available Technology / Best Environmental Practices |  |
|  | <input type="checkbox"/> Green Chemistry  |  |
|  | <input type="checkbox"/> Climate Change   |  |
|  | <input type="checkbox"/> Climate Change Adaptation                                |  |
|  |   | <input type="checkbox"/> Climate Finance                         |
|  |   | <input type="checkbox"/> Least Developed Countries               |
|  |   | <input type="checkbox"/> Small Island Developing States          |
|  |   | <input type="checkbox"/> Disaster Risk Management                |
|  |   | <input type="checkbox"/> Sea-level rise                          |
|  |   | <input type="checkbox"/> Climate Resilience                      |
|  |   | <input type="checkbox"/> Climate information                     |
|  |   | <input type="checkbox"/> Ecosystem-based Adaptation              |
|  |   | <input type="checkbox"/> Adaptation Tech Transfer                |
|  |   | <input type="checkbox"/> National Adaptation Programme of Action |
|  |   | <input type="checkbox"/> National Adaptation Plan                |
|  |   | <input type="checkbox"/> Mainstreaming Adaptation                |
|  |   | <input type="checkbox"/> Private Sector                          |
|  |   | <input type="checkbox"/> Innovation                              |
|  |   | <input type="checkbox"/> Complementarity                         |
|  |   | <input type="checkbox"/> Community-based Adaptation              |
|  |   | <input type="checkbox"/> Livelihoods                             |
|  | <input type="checkbox"/> Climate Change Mitigation                                |  |

|  |  |   |   |
|--|--|---|---|
|  |  |   | <input type="checkbox"/> Agriculture, Forestry, and other Land Use  |
|  |  |   | <input type="checkbox"/> Energy Efficiency  |
|  |  |   | <input type="checkbox"/> Sustainable Urban Systems and Transport  |
|  |  |   | <input type="checkbox"/> Technology Transfer  |
|  |  |   | <input type="checkbox"/> Renewable Energy   |
|  |  |   | <input type="checkbox"/> Financing  |
|  |  |   | <input type="checkbox"/> Enabling Activities  |
|  |  | <input type="checkbox"/> Technology Transfer                        |   |
|  |  |   | <input type="checkbox"/> Poznan Strategic Programme on Technology Transfer  |
|  |  |   | <input type="checkbox"/> Climate Technology Centre & Network (CTCN)   |
|  |  |   | <input type="checkbox"/> Endogenous technology  |
|  |  |   | <input type="checkbox"/> Technology Needs Assessment  |
|  |  |   | <input type="checkbox"/> Adaptation Tech Transfer   |
|  |  | <input type="checkbox"/> United Nations Framework on Climate Change |   |
|  |  |   | <input type="checkbox"/> Nationally Determined Contribution   |
|  |  | <input checked="" type="checkbox"/> Climate Finance (Rio Markers)   | <input type="checkbox"/> Paris Agreement<br><input checked="" type="checkbox"/> Sustainable Development Goals<br><input type="checkbox"/> Climate Change Mitigation 1<br><input type="checkbox"/> Climate Change Mitigation 2<br><input type="checkbox"/> Climate Change Adaptation 1<br><input type="checkbox"/> Climate Change Adaptation 2 |

## GEF 7 Core Indicator Worksheet

## Annex B

| Core Indicator 1                                    | Terrestrial protected areas created or under improved management for conservation and sustainable use |               |             |             |             | (Hectares) |            |
|---|---|---------------|-------------|-------------|-------------|------------|------------|
|   | Hectares (1.1+1.2)  |               |             |             |             |            |            |
|   | Expected  |               |             |             | Achieved    |            |            |
|   | PIF stage   |               | Endorsement |             | MTR         | TE         |            |
|   | 30  |               | 30          |             |             | 22419      |            |
| Indicator 1.1                                       | Terrestrial protected areas newly created   |               |             |             |             |            |            |
| Name of Protected Area                              | WDPA ID   | IUCN category | Hectares    |             |             |            |            |
|   |   |               | Expected    |             | Achieved    |            |            |
|   |   |               | PIF stage   | Endorsement | MTR         | TE         |            |
|   |   |               | (select)    |             |             |            |            |
|   |   | (select)      |             |             |             |            |            |
|   |   | Sum           |             |             |             |            |            |
| Indicator 1.2                                       | Terrestrial protected areas under improved management effectiveness                                   |               |             |             |             |            |            |
| Name of Protected Area                              | WDPA ID   | IUCN category | Hectares    | METT Score  |             |            |            |
|   |   |               |             | Baseline    |             | Achieved   |            |
|   |   |               |             |             | Endorsement | MTR        | TE         |
| Tonga – Toloa Forest                                |   | Other         | 23          |             | 0           |            | 23         |
| Tonga - Mt Talau                                    | 555637414   | II            | 7           |             | 0           |            | 7          |
| Tonga - Vava'u Islands                              |   | Other         | 13770       |             | 30          |            | 13800      |
| Tonga - Late Island                                 |   | Other         | 1700        |             | 0           |            | 1700       |
| Niue - Huvalu Forest, Local reserves of 13 villages | 61918   | VI            | 5400        |             | 0           |            | 5400       |
| Republic of Marshall Islands - Marjuro Atoll        | 555592845   | Ib            | 970         |             | 0           |            | 970        |
| Republic of Marshall Islands - Lib Atoll            |   | Other         | 93          |             | 0           |            | 93         |
| Republic of Marshall Islands - Mejit Atoll          |   | Other         | 186         |             |             |            | 186        |
| Tuvalu - Funafuti Atoll islets                      | 145496  | VI            | 240         |             |             |            | 240        |
|   |   | Sum           | 22389       |             |             |            | 22419      |
| Core Indicator 2                                    | Marine protected areas created or under improved management for conservation and sustainable use      |               |             |             |             |            | (Hectares) |
|   | Hectares (2.1+2.2)  |               |             |             |             |            |            |
|   | Expected  |               |             |             | Achieved    |            |            |
|   | PIF stage   |               | Endorsement |             | MTR         | TE         |            |
|   | 0   |               | 0           |             |             | 0          |            |

|                               |  |               |                            |                        |             |                   |
|-------------------------------|--|---------------|----------------------------|------------------------|-------------|-------------------|
| Indicator 2.1                 | Marine protected areas newly created   |               |                            |                        |             |                   |
| Name of Protected Area        | WDPA ID  | IUCN category | Hectares                   |                        |             |                   |
|                               |  |               | Expected                   |                        | Achieved    |                   |
|                               |  |               | PIF stage                  | Endorsement            | MTR         | TE                |
|                               |  | (select)      |                            |                        |             |                   |
|                               |  | (select)      |                            |                        |             |                   |
|                               |  | Sum           |                            |                        |             |                   |
| Indicator 2.2                 | Marine protected areas under improved management effectiveness   |               |                            |                        |             |                   |
| Name of Protected Area        | WDPA ID  | IUCN category | Hectares                   | METT Score (Scale 1-3) |             |                   |
|                               |  |               |                            | Baseline               |             | Achieved          |
|                               |  |               |                            | PIF stage              | Endorsement | MTR TE            |
|                               |  | (select)      |                            |                        |             |                   |
|                               |  | (select)      |                            |                        |             |                   |
|                               |  | Sum           |                            |                        |             |                   |
| <b>Core Indicator 3</b>       | <b>Area of land restored</b>   |               |                            |                        |             | <b>(Hectares)</b> |
|                               |  |               | Hectares (3.1+3.2+3.3+3.4) |                        |             |                   |
|                               |  |               | Expected                   |                        | Achieved    |                   |
|                               |  |               | PIF stage                  | Endorsement            | MTR         | TE                |
|                               |  |               | 30                         |                        |             | 22419             |
| Indicator 3.1                 | Area of degraded agricultural land restored  |               |                            |                        |             |                   |
|                               |  |               | Hectares                   |                        |             |                   |
|                               |  |               | Expected                   |                        | Achieved    |                   |
|                               |  |               | PIF stage                  | Endorsement            | MTR         | TE                |
|                               |  |               |                            |                        |             |                   |
|                               |  |               |                            |                        |             |                   |
| Indicator 3.2                 | Area of forest and forest land restored  |               |                            |                        |             |                   |
|                               |  |               | Hectares                   |                        |             |                   |
|                               |  |               | Expected                   |                        | Achieved    |                   |
|                               |  |               | PIF stage                  | Endorsement            | MTR         | TE                |
|                               |  |               | 30                         |                        |             | 22419             |
|                               |  |               |                            |                        |             |                   |
| Indicator 3.3                 | Area of natural grass and shrublands restored  |               |                            |                        |             |                   |
|                               |  |               | Hectares                   |                        |             |                   |
|                               |  |               | Expected                   |                        | Achieved    |                   |
|                               |  |               | PIF stage                  | Endorsement            | MTR         | TE                |
|                               |  |               |                            |                        |             |                   |
|                               |  |               |                            |                        |             |                   |
| Indicator 3.4                 | Area of wetlands (including estuaries, mangroves) restored   |               |                            |                        |             |                   |
|                               |  |               | Hectares                   |                        |             |                   |
|                               |  |               | Expected                   |                        | Achieved    |                   |
|                               |  |               | PIF stage                  | Endorsement            | MTR         | TE                |
|                               |  |               |                            |                        |             |                   |
|                               |  |               |                            |                        |             |                   |
| <b>Core Indicator 4</b>       | <b>Area of landscapes under improved practices (hectares; excluding protected areas)</b>                                       |               |                            |                        |             | <b>(Hectares)</b> |
|                               |  |               | Hectares (4.1+4.2+4.3+4.4) |                        |             |                   |
|                               |  |               | Expected                   |                        | Expected    |                   |
|                               |  |               | PIF stage                  | Endorsement            | MTR         | TE                |
|                               |  |               |                            |                        |             | 7550              |
| Indicator 4.1                 | Area of landscapes under improved management to benefit biodiversity   |               |                            |                        |             |                   |
|                               |  |               | Hectares                   |                        |             |                   |
|                               |  |               | Expected                   |                        | Achieved    |                   |
|                               |  |               | PIF stage                  | Endorsement            | MTR         | TE                |
|                               |  |               | 0                          |                        |             | 7550              |
|                               |  |               |                            |                        |             |                   |
| Indicator 4.2                 | Area of landscapes that meet national or international third-party certification that incorporates biodiversity considerations |               |                            |                        |             |                   |
| Third party certification(s): |  |               | Hectares                   |                        |             |                   |

|                               |   |  | Expected       |             | Achieved |                   |
|-------------------------------|---|--|----------------|-------------|----------|-------------------|
|                               |   |  | PIF stage      | Endorsement | MTR      | TE                |
|                               |   |  |                |             |          |                   |
| Indicator 4.3                 | Area of landscapes under sustainable land management in production systems  |  |                |             |          |                   |
|                               |   |  | Hectares       |             |          |                   |
|                               |   |  | Expected       |             | Achieved |                   |
|                               |   |  | PIF stage      | Endorsement | MTR      | TE                |
|                               |   |  |                |             |          |                   |
|                               |   |  |                |             |          |                   |
| Indicator 4.4                 | Area of High Conservation Value Forest (HCVF) loss avoided  |  |                |             |          |                   |
|                               |   |  | Hectares       |             |          |                   |
|                               |   |  | Expected       |             | Achieved |                   |
|                               |   |  | PIF stage      | Endorsement | MTR      | TE                |
|                               |   |  |                |             |          |                   |
|                               |   |  |                |             |          |                   |
| <b>Core Indicator 5</b>       | <b>Area of marine habitat under improved practices to benefit biodiversity</b>  |  |                |             |          | <b>(Hectares)</b> |
| Indicator 5.1                 | Number of fisheries that meet national or international third-party certification that incorporates biodiversity considerations |  |                |             |          |                   |
| Third party certification(s): |   |  | Number         |             |          |                   |
|                               |   |  | Expected       |             | Achieved |                   |
|                               |   |  | PIF stage      | Endorsement | MTR      | TE                |
|                               |   |  |                |             |          |                   |
|                               |   |  |                |             |          |                   |
| Indicator 5.2                 | Number of large marine ecosystems (LMEs) with reduced pollution and hypoxial  |  |                |             |          |                   |
|                               |   |  | Number         |             |          |                   |
|                               |   |  | Expected       |             | Achieved |                   |
|                               |   |  | PIF stage      | Endorsement | MTR      | TE                |
|                               |   |  |                |             |          |                   |
|                               |   |  |                |             |          |                   |
| <b>Core Indicator 6</b>       | <b>Greenhouse gas emission mitigated</b>  |  |                |             |          | <b>(Tons)</b>     |
|                               |   |  | Tons (6.1+6.2) |             |          |                   |
|                               |   |  | Entered        |             | Entered  |                   |
|                               |   |  | PIF stage      | Endorsement | MTR      | TE                |
|                               | Expected CO2e (direct)  |  |                |             |          |                   |
|                               | Expected CO2e (indirect)  |  |                |             |          |                   |
| Indicator 6.1                 | Carbon sequestered or emissions avoided in the AFOLU sector   |  |                |             |          |                   |
|                               |   |  | Tons           |             |          |                   |
|                               |   |  | Entered        |             | Entered  |                   |
|                               |   |  | PIF stage      | Endorsement | MTR      | TE                |
|                               | Expected CO2e (direct)  |  |                |             |          |                   |
|                               | Expected CO2e (indirect)  |  |                |             |          |                   |
|                               | Anticipated Year  |  |                |             |          |                   |
| Indicator 6.2                 | Emissions avoided   |  |                |             |          |                   |
|                               |   |  | Hectares       |             |          |                   |
|                               |   |  | Expected       |             | Achieved |                   |
|                               |   |  | PIF stage      | Endorsement | MTR      | TE                |
|                               | Expected CO2e (direct)  |  |                |             |          |                   |
|                               | Expected CO2e (indirect)  |  |                |             |          |                   |
|                               | Anticipated Year  |  |                |             |          |                   |
| Indicator 6.3                 | Energy saved  |  |                |             |          |                   |
|                               |   |  | MJ             |             |          |                   |
|                               |   |  | Expected       |             | Achieved |                   |
|                               |   |  | PIF stage      | Endorsement | MTR      | TE                |
|                               |   |  |                |             |          |                   |
|                               |   |  |                |             |          |                   |
| Indicator 6.4                 | Increase in installed renewable energy capacity per technology  |  |                |             |          |                   |

|                         |   | Technology             | Capacity (MW)             |             |          |                 |
|-------------------------|---|------------------------|---------------------------|-------------|----------|-----------------|
|                         |   |                        | Expected                  |             | Achieved |                 |
|                         |   |                        | PIF stage                 | Endorsement | MTR      | TE              |
|                         |   | (select)               |                           |             |          |                 |
|                         |   | (select)               |                           |             |          |                 |
| <b>Core Indicator 7</b> | <b>Number of shared water ecosystems (fresh or marine) under new or improved cooperative management</b>   |                        |                           |             |          | <b>(Number)</b> |
| Indicator 7.1           | Level of Transboundary Diagnostic Analysis and Strategic Action Program (TDA/SAP) formulation and implementation  |                        |                           |             |          |                 |
|                         |   | Shared water ecosystem | Rating (scale 1-4)        |             |          |                 |
|                         |   |                        | PIF stage                 | Endorsement | MTR      | TE              |
|                         |   |                        |                           |             |          |                 |
|                         |   |                        |                           |             |          |                 |
| Indicator 7.2           | Level of Regional Legal Agreements and Regional Management Institutions to support its implementation   |                        |                           |             |          |                 |
|                         |   | Shared water ecosystem | Rating (scale 1-4)        |             |          |                 |
|                         |   |                        | PIF stage                 | Endorsement | MTR      | TE              |
|                         |   |                        |                           |             |          |                 |
|                         |   |                        |                           |             |          |                 |
| Indicator 7.3           | Level of National/Local reforms and active participation of Inter-Ministerial Committees  |                        |                           |             |          |                 |
|                         |   | Shared water ecosystem | Rating (scale 1-4)        |             |          |                 |
|                         |   |                        | PIF stage                 | Endorsement | MTR      | TE              |
|                         |   |                        |                           |             |          |                 |
|                         |   |                        |                           |             |          |                 |
| Indicator 7.4           | Level of engagement in IWLEARN through participation and delivery of key products   |                        |                           |             |          |                 |
|                         |   | Shared water ecosystem | Rating (scale 1-4)        |             |          |                 |
|                         |   |                        | Rating                    |             | Rating   |                 |
|                         |   |                        | PIF stage                 | Endorsement | MTR      | TE              |
|                         |   |                        |                           |             |          |                 |
|                         |   |                        |                           |             |          |                 |
| <b>Core Indicator 8</b> | <b>Globally over-exploited fisheries Moved to more sustainable levels</b>   |                        |                           |             |          | <b>(Tons)</b>   |
|                         |   |                        | Metric Tons               |             |          |                 |
|                         |   |                        | PIF stage                 | Endorsement | MTR      | TE              |
|                         |   |                        |                           |             |          |                 |
| <b>Core Indicator 9</b> | <b>Reduction, disposal/destruction, phase out, elimination and avoidance of chemicals of global concern and their waste in the environment and in processes, materials and products</b> |                        |                           |             |          | <b>(Tons)</b>   |
|                         |   |                        | Metric Tons (9.1+9.2+9.3) |             |          |                 |
|                         |   |                        | Expected                  |             | Achieved |                 |
|                         |   |                        | PIF stage                 | PIF stage   | MTR      | TE              |
|                         |   |                        |                           |             |          |                 |
| Indicator 9.1           | Solid and liquid Persistent Organic Pollutants (POPs) and POPs containing materials and products removed or disposed  |                        |                           |             |          |                 |
|                         | POPs type   |                        | Metric Tons               |             |          |                 |
|                         |   |                        | Expected                  |             | Achieved |                 |
|                         |   |                        | PIF stage                 | Endorsement | MTR      | TE              |
|                         | (select)  | (select)               | (select)                  |             |          |                 |
|                         | (select)  | (select)               | (select)                  |             |          |                 |
|                         | (select)  | (select)               | (select)                  |             |          |                 |
| Indicator 9.2           | Quantity of mercury reduced   |                        |                           |             |          |                 |
|                         |   |                        | Metric Tons               |             |          |                 |
|                         |   |                        | Expected                  |             | Achieved |                 |
|                         |   |                        | PIF stage                 | Endorsement | MTR      | TE              |
|                         |   |                        |                           |             |          |                 |
| Indicator 9.3           | Number of countries with legislation and policy implemented to control chemicals and waste  |                        |                           |             |          |                 |
|                         |   |                        | Number of Countries       |             |          |                 |
|                         |   |                        | Expected                  |             | Achieved |                 |



|                          |   |            |                     |             |          |                 |
|--------------------------|---|------------|---------------------|-------------|----------|-----------------|
|                          |   |            | PIF stage           | Endorsement | MTR      | TE              |
| Indicator 9.4            | Number of low-chemical/non-chemical systems implemented particularly in food production, manufacturing and cities |            |                     |             |          |                 |
|                          |   | Technology | Number              |             |          |                 |
|                          |   |            | Expected            |             | Achieved |                 |
|                          |   |            | PIF stage           | Endorsement | MTR      | TE              |
|                          |   |            |                     |             |          |                 |
|                          |   |            |                     |             |          |                 |
| <b>Core Indicator 10</b> | <b>Reduction, avoidance of emissions of POPs to air from point and non-point sources</b>                          |            |                     |             |          | <b>(Grams)</b>  |
| Indicator 10.1           | Number of countries with legislation and policy implemented to control emissions of POPs to air                   |            |                     |             |          |                 |
|                          |   |            | Number of Countries |             |          |                 |
|                          |   |            | Expected            |             | Achieved |                 |
|                          |   |            | PIF stage           | Endorsement | MTR      | TE              |
|                          |   |            |                     |             |          |                 |
| Indicator 10.2           | Number of emission control technologies/practices implemented   |            |                     |             |          |                 |
|                          |   |            | Number              |             |          |                 |
|                          |   |            | Expected            |             | Achieved |                 |
|                          |   |            | PIF stage           | Endorsement | MTR      | TE              |
|                          |   |            |                     |             |          |                 |
| Indicator 10.3           | Number of countries with legislation and policy implemented to control chemicals and waste                        |            |                     |             |          |                 |
|                          |   |            | Number of Countries |             |          |                 |
|                          |   |            | Expected            |             | Achieved |                 |
|                          |   |            | PIF stage           | Endorsement | MTR      | TE              |
|                          |   |            |                     |             |          |                 |
|                          |   |            |                     |             |          |                 |
| <b>Core Indicator 11</b> | <b>Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment</b>                     |            |                     |             |          | <b>(Number)</b> |
|                          |   |            | Number Achieved     |             |          |                 |
|                          |   |            |                     |             | MTR      | TE              |
|                          |   |            |                     | Female      |          | 62,000          |
|                          |   |            |                     | Male        |          | 62,000          |
|                          |   |            |                     | Total       |          | 124,000         |
|                          |   |            |                     |             |          |                 |

## **Introduction**

The Gender Analysis below provides an overview of gender equality in the environment sector in the Pacific and specifically as it relates to IAS/biosecurity and highlights gender issues that could be relevant for the proposed project. The assessment is based on the available data from various studies as well as stakeholder consultations. This analysis further underpins the overall results framework of the project to ensure disaggregated indicators by sex are collected and where possible determining what types of data must be collected to track gender-related project results.

## **Background on gender related policies and gender equality profile in the Pacific**

Significant progress has been made over the past twenty years to increase the recognition of gender equality as being an integral part of the economic, political, cultural and social development of Pacific Island countries (PICs). This progress is reflected in a number of reforms and innovative policies. Since the adoption of the Beijing Platform for Action in 1995, the majority of PICs have ratified the Convention on the Elimination of Discrimination against Women (CEDAW), and have engaged in the regular reporting of their progress towards full compliance. Across the Pacific region, initiatives have been carried out to build the capacity of public institutions and civil society in the various aspects of gender mainstreaming. Consequently, most PICs have adopted specific national gender equality policies, and have established institutional mechanisms for gender equality (national women's machineries – NWMs)<sup>20</sup>.

The effects of the various reforms on the advancement of Pacific women are seen in a number of contexts and they manifest in many ways, including women's education levels, their leadership in communities and civil society organisations, and their entrepreneurship and economic dynamism. Recurrent manifestations of gender inequality, however, remain in all sectors, such as in high rates of gender-based violence, underrepresentation of women in the formal economy, and inequitable access of women to health and social services.<sup>21</sup>

While there are governance issues and inequalities related to gender in the Pacific and each target country has its own specific issues, within the broad environmental field, close to half of government staff working on IAS/biosecurity and other environmental issues are women. Currently, across the four target countries 48% of staff in the environment sector are women.

## **Gender Issues related to Invasive Alien Species (IAS) and Biosecurity**

Gender relations play a key role in the access to and use of biological resources, as well as their management within protected areas and in production landscapes. Women and men often have different knowledge about, and preferences utilising plants and animals for food, income and sometimes medicine. Women's roles in seed selection, seed saving, and use of wild plants for food and medicines influence biodiversity conservation. Loss of biodiversity affects both men

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<sup>20</sup> Progressing gender equality in the Pacific (2013 – 2018): Programme report. 1 July 2014 – 30 June 2015 / prepared by the Social Development Division, Pacific Community (2016).

<sup>21</sup> IBID.

and women, but in different ways according to any different gender specific benefits derived. In some Pacific countries, women are primarily responsible for food supply in their households and more involved in horticulture and domestic animal husbandry to ensure daily food supply (UN Women 2016).<sup>22</sup>

As outlined by Fish, et al. (2010): “Gender related impacts of invasive species arise out of the gender differences that are found in other natural resource management contexts; differences in ownership and access to assets and resources; division of labor; access to education, knowledge and information; decision making norms and practices. Together these mean that the immediate effects of species invasions can be experienced in different ways by men and women. Negative impacts of invasive species are often multiple, interact, and lead to a series of other negative impacts. At the immediate level, invasive species can increase the time taken to perform tasks, reduce the efficiency or effectiveness of natural resource management and agricultural tasks, and result in reduced food production or quality. Direct effects on health can occur aside from invasive diseases themselves.”<sup>23</sup>

Management of invasive species is also often a political process raising questions such as who decides which organisms are to be managed, and who benefits or is affected by different management techniques. However, in the Pacific women are not always involved in decision making, capacity building, design and implementation of biodiversity protection measures (GEF 2013). The development of the current project proposal has included the importance of conducting participatory stakeholder analyses and consultations to determine rights, roles, priorities, and capabilities of women and men on resources and issues at stake. The project development process therefore included extensive consultation with a wide-range of stakeholders and used input from women. Hence the project design has integrated a gender equity approach across objectives, outputs, and activities. The next section highlights the gender considerations that have been incorporated and will be undertaken during project implementation.

### **Gender considerations addressed during the project’s implementation**

Information and data relating gender and IAS/ biosecurity are limited in the Pacific. The PPG process has nevertheless taken into consideration gender related issues across the project design. As a starting point, the project has considered the differentiated roles that women and men have in various areas such as agriculture, tourism, biodiversity management and preservation, education and within households.

Insufficient inclusion of women in all stages of project implementation is likely to result in gender-blind planning, financing, execution and implementation. This is why, the proposal reflects gender considerations across its activities, results, performance/impact indicators, and operational costs. Furthermore, the project will identify opportunities when women in particular can act as agents of change, therefore improving the overall effectiveness of the intervention. Engaging women as active stakeholders throughout the processes is important because women have essential experience and know-how as a result of their multiple societal roles - they have critical insight, perspectives and knowledge to significantly support overall processes. In

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<sup>22</sup> Fish, J. et al. 2010. Mainstreaming gender into prevention and management of invasive species. Global Invasive Species Programme (GISP), Washington DC, US, Nairobi, Kenya. 64pp

<sup>23</sup> Ibid, p. 52

practical terms, this project will promote parity and equitable inclusion of women while cooperating with the partners - so that they are adequately represented and their voice is heard.

### *Gender specific mainstreaming*

The project will ensure both that the sex disaggregated data are collected, and also that data collection process is gender-sensitive. Further, the logical framework of the project includes gender disaggregated indicators that can validate the gender assessments conducted during the development of the proposed project and will reflect the benefits to women in terms of participation in the project. The activities of the project will therefore be undertaken under a gender-responsive approach to ensure opportunities are equally available to men and women; paying particular attention to support whenever possible those groups that have a key role in bringing income to families and/or whose involvement on particular activities could boost their potential for future work engagements. Women and youth groups will be involved whenever possible into all project activities on capacity building, implementation at project sites, monitoring and evaluation to ensure sustainability of invariable recurrent costs and /or return of investment.

During the implementation of the project's activities budget has been allocated to undertake:

- A gender analysis at the local level to determine the roles of women and youth in their communities before embarking on work;
- Utilization of the gender analysis to determine how best to undertake specific activities to ensure their inclusion and to maximise impact/benefit. For example, if women are mostly responsible for gardening/horticulture then particular care will be taken to provide targeted inclusion in EDRR training/delimitation surveys for Yellow Crazy Ant or Fire Ants. And if women and youth are primarily responsible for gathering marine invertebrates for food then identification/detection training of new marine IAS would specifically target women and youth. New fish species might need both men and women/youth involvement equally – at the point of capture (men if this is primarily their responsibility) and at the point of cooking/consumption (if preparation is primarily the role of women) – both sectors need to be attuned to new species to detect early incursions of potentially invasive alien species.

Where there are local restoration projects (e.g. Niue, Tonga, RMI) possible steps will be taken to ensure that women and youth are involved in organising/owning the local implementation of these projects and will receive the necessary training/capacity development required to empower them to act in these roles. Correspondingly, training offered by the PRISMSS for NPCs and the like will consistently include as a standard topic inclusive gender/youth planning so that at local level these sectors are included as much as possible

During the development of NISSAP's and other policy documents / modalities the PSC will ensure that any TOR's for agencies involved recognise as a requirement gender/youth rights. Gender considerations will also be integrated into policy development. It is not expected this will present a major issue because all participating Governments have strong Gender policies and women well placed in senior Environment Management roles (as cited above) who will also be members of NISSAP TAG's.

At the project management level gender considerations will also be taken into account in the process of recruitment of project personnel and consultants, trying whenever possible to balance employing women and men. All the Government agencies of the participating countries and agencies have gender equality policies and so recruitment procedures will have to comply with these which will ensure equal opportunities are afforded. UN Women (Pacific office) has been active in Tonga, Niue and Tuvalu and consultations during the PPG phase with UN Women have indicated that awareness of best practice for gender equality in the Government sectors in these countries is adequate. Preliminary information shows there is a high proportion of women in the workforce employed in IAS/ biosecurity activities (as reported above) and the environment sector generally in the four participating countries and in other PICTs.

Gender disaggregated data for the issue of IAS/ biosecurity, as mentioned above are lacking in the Pacific as a whole. The project will collect disaggregated information with respect to gender in its reporting and ensure where possible that project implementation considers gender equality. Specific gender indicators have been included in the project's log-frame and the PMU/PSC will be in regular contact with the UN Women Samoa office which has offered to provide ongoing advice and already provided a toolkit (UN Women unpub). Output 4.1.4 in particular will aim to put in place a regionally capable information system delivering case studies, guidelines, standard operating procedures and tools generated by components one to three. The system will include sex disaggregated data on women and youth participation in IAS/ biosecurity activities and outputs.

Finally, to ensure formally recording lessons learned and to provide a qualitative assessment, the monitoring review and terminal evaluation will include specific questions related to gender integration. Lessons learned and recommendations from evaluation reports and other reporting will be widely disseminated (e.g. UN Environment and SPREP networks) to assist future work in this area.

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