



Pacific
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RESCCUE

**FEASIBILITY STUDY OF ECONOMIC AND FINANCIAL
MECHANISMS FOR INTEGRATED COASTAL
MANAGEMENT IN THE RA PROVINCE, FIJI**



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Overview of the objectives and components of RESCCUE project :

The *Resilience of Ecosystems and Societies to Climate Change* (RESCCUE) project is a regional project implemented by the Secretariat of the Pacific Community.

The overall goal of RESCCUE is to contribute to increasing the resilience of Pacific Island Countries and Territories (PICTs) in the context of global changes. To this end RESCCUE aims at supporting adaptation to climate change (ACC) through integrated coastal management (ICM), resorting especially to economic analysis and economic and financial mechanisms.

The RESCCUE project operates both at the regional level and in one to two pilot sites in four countries and territories: New Caledonia, Vanuatu, Fiji and French Polynesia.

RESCCUE is funded primarily by the *French Development Agency* (AFD) and the *French Global Environment Facility* (FFEM) for a duration of five years (01/01/2014 to 31/12/2018). The total project budget is 13 million Euros, including 6.5 million Euros from AFD/FFEM and about the same in co-funding.

RESCCUE Project sites in Fiji are RaProvince and Kadavu province. Ra has about 95 communities and Kadavu 73 communities. The following are the RESCCUE components that will be implemented in these two sites.

It is structured around five components:

Component 1: Integrated coastal management – supporting ICM implementation through ICM plans, ICM committees, and management activities concerning both terrestrial and marine ecosystems, capacity building and income generating activities.

Component 2: Economic analysis – using economic analysis to support coastal management and policy decisions.

Component 3: Economic and financial mechanisms – setting up economic and financial mechanisms to generate additional and sustainable funding for ICM: review of options (payment for ecosystem services, taxes, user fees, trust funds, quota markets, offsets, labels...); feasibility studies; implementation; monitoring.

Component 4: Capitalization, communication, dissemination of project outcomes in the Pacific – going beyond pilot sites activities in order to have impacts at the regional level, by fostering experience sharing between sites, cross-sectoral expertise, and communication and dissemination of the project outcomes.

Component 5: Project management – implementing and coordinating the project, by providing technical assistance, organizing local and regional steering committees, conducting audits and evaluations (mi-term and ex-post), etc.

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EXECUTIVE SUMMARY

Financial and economic mechanisms are being explored in many nations, including Fiji, to diversify the funding streams for conservation. These mechanisms range from taxes and subsidies to user fees to offsets for environmental damage. The RESCCUE project is actively exploring the use of financial/economic mechanisms to support conservation initiatives in Ra Province, Viti Levu, Fiji.

The Ra Province Integrated Coastal Management (ICM) Plan (Ra Province 2016) highlights the most pressing environmental issues facing the province, and this report focuses on the financial/economic mechanisms that could support the implementation of this plan. The report describes some of the financial/economic mechanisms currently being used in Fiji and Ra Province, outlines some of the challenges and opportunities with the use of these mechanisms, identifies which mechanisms are likely best able to support the strategic actions identified in the Ra ICM Plan, provides an in-depth feasibility assessment of options to support the implementation and management of the proposed Vatu-i-Ra Conservation Park, and gives some recommendations for how RESCCUE could contribute to the development of financial/economic mechanisms in Ra Province.

In Fiji the existing financial/economic mechanisms involve the use of national level levies/taxes focused on the tourism sector, user fees also focused on the tourism sector, endowment trusts established using private sector funding, grant systems supported by the private sector, projects aimed to leverage the voluntary global carbon market (and any future compliance market), and eco-labelling.

Potential mechanisms to support the Ra Province ICM Plan

Gravel extraction, burning, marine poaching, freshwater destructive fishing methods, community waste management, unsustainable farming practices, the Vatu-i-Ra Marine Protected Area (this initiative has now been renamed as a conservation park and will be referred to as the Vatu-i-Ra Conservation Park throughout this document) and black sand mining are the eight environmental issues identified in the Ra ICM Plan. Of these burning, unsustainable farming practices, the Vatu-i-Ra Conservation Park and black sand mining are the issues that appear most suited to use of financial/economic mechanisms to support their management. Some of these are more immediate options for establishing financial or economic instruments while others are options potentially available in the longer term.

The most promising mechanism is the voluntary contribution scheme for the proposed Vatu-i-Ra Conservation Park, where communities create a permanent no-take area and dive operators contribute to the proposed Conservation Park and community development. This is because of the level of interest in such a system within the communities and the seeming willingness of most dive operations to be part of this scheme. There are still a number of issues to work through, such as whether a complementary mechanism is needed to strengthen the protection of the proposed Vatu-i-Ra Conservation Park, before the scheme is successfully implemented.

It is unlikely, however, that systems like this would be viable for other environmental/natural resources in the province. This is because there do not appear to be other unique and charismatic areas/species for which visitors may be prepared to make voluntary contributions to conservation for visits or use. It should, furthermore,

be noted that the relative expensiveness of visiting Fiji further increases with a wider adoption of contribution schemes or revenue-based taxes. The surfing decree has further limited the use of user fee-type mechanisms in the coastal area.

In the longer term, alternative livelihoods such as organic farming, new enterprises or a return to traditional crops could provide more durable income sources to assist with the transition to more sustainable farming practices and reduced burning. Developing alternative livelihoods will require not only the scoping and exploration of new enterprises for the Province (in terms of what type of crops/livestock would perform well in that area and the potential market) but also significant investment in training or upskilling around these enterprises. The most significant candidate for organic farming is the sugar industry. Any initiative to promote and invest in organic farming education and certification processes would require buy-in from Fiji Sugar Corporation and the cane growers.

Other mechanisms that could support the burning and unsustainable farming methods strategic management options are the establishment of Trust Funds. The Sovi Basin Trust Fund could potentially be extended to the Ra Province, but it would require an additional injection of funds to support this expansion. There are some opportunities for funding, e.g. GEF funds, that could potentially be accessed for this purpose and are being explored. The establishment of new Trusts would require not only initial endowment funds but also time to adequately engage and establish transparent and robust governance structures.

If the Black Sand Mining venture goes ahead then biodiversity offsets could be a useful mechanism to obtain compensation for the environmental losses associated with the mining as well as permanently protect (providing there are legal mechanisms to allow this) a similar area. While this does not avoid the loss of some natural resources, biodiversity offsets can help protect other resources and potentially provide an income stream to local communities. The governance structure around the offset is critical as the offset area needs to be protected in perpetuity and the funds managed in a transparent fashion for the benefit of the community and continued conservation of the area. Financial assurance instruments, such as performance bonds, can also be used to complement offset programs to support governance systems and ensure that environmental objectives are met.

In-depth feasibility assessment for proposed Vatu-i-Ra Conservation Park

The in-depth feasibility assessment for the Vatu-i-Ra Conservation Park assessed and compared potential financial/economic instruments, including the voluntary contribution scheme being proposed. The rationale for establishing a financial/economic mechanism for the conservation park is to provide a revenue stream to protect the biological diversity within the proposed Vatu-i-Ra Conservation Park and generate an income for Fijian communities to support their development.

Six potential economic instruments were assessed and compared and included: (1) no financial/economic mechanism; (2) a voluntary contribution from tourists, where divers make a per person contribution to dive on the reef; (3) recreational leases/licences – dive and tour operators pay a set contribution to conservation each year to dive in the Conservation Park regardless of number of visitors; (4) fishing regulation – regulation to restrict or prohibit the taking of fish (under Section 9 of the Fisheries Act) (this was excluded from further consideration as an instrument to pursue

as it would provide no incentives or income for the community); (5) foreshore leases – lease to enable community to better monitor and control fishing pressure in the proposed Conservation Park; (6) voluntary contribution to conservation scheme, where divers contribute to use the reef in return for the village fishers not fishing in the proposed Conservation Park and creating a permanent no-take area. This payment is for an environmental service to maintain high ecological integrity within the Park.

The assessment was based on six criteria and for two potential revenue streams in the Park – tourism and fishing. The criteria included (1) legal standing, (2) ecological integrity, (3) regular income stream, (4) support, (5) administrative burden, and (6) scope (instrument can be applied to multiple parties).

From the market assessment and assessment of risks and opportunities there is only one instrument, besides not implementing any financial/economic mechanism, that is known to be legally possible at this time: the voluntary contribution to the conservation scheme, where similar initiatives have already proved to be successful in other areas.

To complement the voluntary scheme, it may be possible to use a foreshore lease to provide the Park with a stronger legal status under Fijian law. However, further legal advice is needed to determine if and how a foreshore lease could be implemented, and how this affects the access rights of local communities short and long-term. A foreshore lease is unlikely to get community buy in on its own since it does not provide for any compensation for the communities that would be foregoing fishing opportunities within the area. Both the dive user fee and the recreational leases/licences cannot be used as they violate the Surfing Decree.

RESCCUE recommendations

Moving forward, there are a number of potential actions for the RESCCUE consortium. These include:

- i. Continued support for the implementation of the Vatu-i-Ra Contribution Scheme and complementary mechanisms with attention paid to some of the outstanding issues/concerns for the successful implementation of the scheme.
- ii. Investigate other income generating farming options (e.g. organic or alternative enterprises) in the Province, alongside complementary certification, to provide new/additional income streams but also reduce their impact on the environment.
- iii. Actively investigate other funding sources to initially establish or expand Trusts to conserve the environment in the Province. The most straightforward would be to expand existing Trusts, and any newly established trusts should take lessons from existing models on the most effective approach for establishing trusts in Fiji.
- iv. Keep a watching brief on the Black Sand Mining Venture. In those communities likely to be affected by any mining, engagement with the local community should be around the establishment of a marine park but also the use of biodiversity offsets should mining go ahead.
- v. Engage in any debates around the use of the newly established Environmental Levy. If the government's intent is to ensure the right to a clean environment for all Fijians then it would be expected that the funds should be used for conservation purposes. However, it is currently not clear if the levy revenue will be used for that purpose. Proactive engagement with government on the use of

the levy revenue for disbursements to activities that restore the environment within Fiji's territorial land and waters, including as a source of funds to support the establishment of economic/financial mechanisms for environmental conservation, is warranted.

1. INTRODUCTION

The sustainable financing of initiatives that protect and restore biodiversity and ecosystem services is an on-going concern in many parts of the world including Fiji. There are a variety of approaches being explored and used to create sustainable financial and economic mechanisms to generate these financing streams for a wide range of conservation initiatives. These mechanisms range from taxes and subsidies to user fees to offsets for environmental damage.

Fiji is arguably in its infancy both in the exploration of and use of these mechanisms. RESCCUE as part of its implementation package aims to explore and initiate, where appropriate, the establishment of financial and economic mechanisms to support the on-going implementation and operation of integrated coastal management (ICM) strategies. Part of this is to assess the feasibility of using financial/economic mechanisms in different contexts, to strengthen existing initiatives, and to learn from past experience around the establishment use of these types of mechanisms in Fiji.

The focus of this report is on the financial/economic mechanisms that could support the implementation of the Ra ICM Plan (RA Province 2016) for Ra Province, Viti Levu. The report describes some of the financial/economic mechanisms currently being used in Fiji and Ra Province, outlines some of the challenges and opportunities with the use of these mechanisms, identifies which mechanisms are likely best able to support the strategic actions identified in the Ra ICM Plan, provides an in-depth feasibility assessment of options to support the implementation and management of the proposed Vatu-i-Ra Conservation Park, and recommends how RESCCUE could contribute to the development of financial/economic mechanisms in Ra Province.

2. RA PROVINCE

The Ra province is located in the north-east of Viti Levu in Fiji. It has a total of 93 *iTaukei* villages, 20 districts or *Tikina*, and has four main tribal boundaries of the *Vanua* known as the *Vanua Rakiraki*, *Saivou*, *Nakorotubu* and *Nailawa*. These are all administrated by the Ra Provincial Council and the ICM plan for the Province directly involves 9 of these districts. The province has a land area of 1341 square kilometers and population of 30 533 (Fiji Bureau of Statistics 2015).

Sugar production is the main economic activity, although tourism and cattle rearing are also locally important industries. Fishing in the marine area is an important source of protein for local communities (Aalbersberg et al. 2014).

The Nakoruotubu and Nakauvadrass Range are found within the province and contains rainforest that is home to endangered species such as the Giant Forest Honeyeater (Conservation International 2016).

3. FINANCIAL AND ECONOMIC INSTRUMENTS IN FIJI

3.1 Overview of financial and economic mechanisms

There is no agreed definition or classification of financial and economic mechanisms/instruments (Billé & Marre 2015; Greenhalgh & Selman 2014). RESCCUE have developed a basic framework for these instruments (see Table 1) that uses four categories to differentiate between mechanisms. Two categories describe the primary objectives of the mechanisms and two categories distinguish mechanisms based on who pays.

Table 1. RESCCUE classification of economic and financial mechanisms

What for? Who pays?	Economic mechanisms Primary objective: provide incentive(s) to limit harmful behaviours to biodiversity and ecosystem services	Financial mechanism Primary objective: generate funding to cover administrative or management costs for biodiversity and ecosystem services conservation or restoration (one-off or regular payments)
Polluter pays An agent pays because he degrades biodiversity and ecosystem services	Tax, ecotax (to change behaviour) Quotas, markets Eliminate harmful subsidies	Tax, ecotax (to generate funding) Offset Trust funds (filled by polluters) Compensation of environmental damage Royalty Usage fee, user fees, licence fees Tax (tourism, cruise ship)
Beneficiary pays An agent (or a representative) pays to benefit from ecosystem services and biodiversity conservation or restoration	Payment for ecosystem services Conservation agreements (involving a payment) Conservation easements REDD++ Label Subsidies Reverse auctions	Private/public donations Land acquisition Trust funds (filled by beneficiaries) Green lottery Entrance fees to protected areas User fee, licence fees Taxes (airport, tourism tax, cruise ship) Debt-for-nature swap

Source: from Billé & Marre 2015

Another useful, and relatively common, way to describe mechanisms is whether the mechanism is price-based or market-based (or rights-based) (Fig. 1). Price-based mechanisms directly change price, while market-based mechanisms indirectly influence price through markets. Price-based mechanisms rely on explicit price signals to motivate changes in behaviour. There are two common types of price-based mechanisms – taxes that place a penalty on those who degrade ecosystem services and subsidies that provide rewards to reduce negative impacts on ecosystem services (Greenhalgh & Faeth 2001).

Market-based mechanisms refer to any policy where a market-like mechanism is created to determine the price paid for an environmental outcome (Morrison & Greig undated). They encourage behaviour through market signals rather than through explicit directives such as pollution control levels or methods (Stavins 2001). Market-based mechanisms have some key, theoretical advantages over stand-alone regulation or price-based economic mechanisms, especially in efficiency and cost-effectiveness in improving environmental quality and meeting environmental goals (e.g. Tietenburg 2006).

This type of classification is also useful as it provides insights in to the types of signals an instrument may provide to incentivise conservation actions. In this report, we attempt to look broadly across the range of different financial/economic instruments to see how they may or may not be applicable to conservation efforts in the Ra Province, Viti Levu, Fiji.

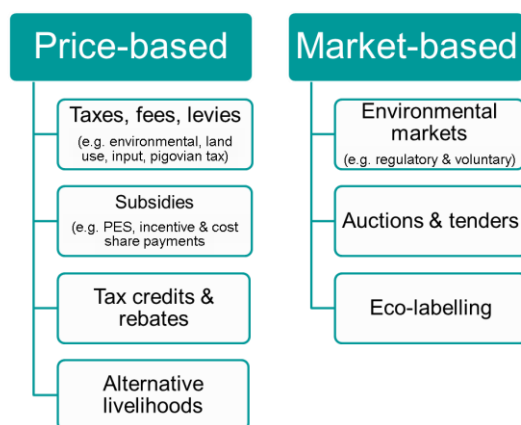


Figure 1. Description of price-based and market-based instruments

3.2 Potential revenue streams

All financial and economic mechanisms require some form for revenue stream. These revenue streams typically come from Official Development Assistance (ODA) organisations, government, private sector, philanthropic organisations and/or individuals.

3.2.1 Official Development Assistance organisations

This form of funding typically comes through bilateral (e.g. through overseas aid from different nations) or multilateral (e.g. Global Environment Facility (GEF)) funding. Recently there has been an increasing focus on water, environment, health, and climate change in the ODA sector (OECD 2011).

GEF has a number of funds that could potentially provide initial financing for conservation initiatives. Some of these funds include the Biodiversity Conservation Fund, Land Degradation Fund and Climate Change Fund. There are a range of climate change-related funds that could also be used as revenue sources. These include the Adaptation Fund and potentially the Pilot Programme for Climate Resilience. Other climate change-related funds such as the Least Developed Countries Fund, Special Climate Change Fund and Global Climate Change Alliance are currently less relevant for Fiji (Greenhalgh et al. 2015).

The United Nations Framework on the Convention for Climate Change (UNFCCC) created provisions for Reduced Emissions from Deforestation and Forest Degradation (REDD) and REDD+¹ programmes that are aimed to reduce deforestation and forest degradation in developing countries. This enables conservation through the creation of markets for the exchange of carbon credits² and is discussed in more detail for Fiji in Section 2.3.5.

There are many opportunities through bilateral funds and the nature of these opportunities will depend on the funding strategies for each nation. While some of these

¹ REDD with social and sustainable benefits.

² While the payments for the carbon credits will come from the private sector and/or public sector on a voluntary or compliance basis, it is included in this section as the mechanism was established through the UNFCCC.

funds may come directly from different governments, many will come through regional organisations such as Secretariat of the Pacific Regional Environment Programme (SPREP).

3.2.2 Government

The government of Fiji is a potential revenue source for some of the activities needed to establish and sustain financial/economic mechanisms. The newly established Environment Levy and environment levy within the Airport Departure Tax, for example, could be potential sources of revenue. At the moment this revenue goes into the Consolidated Fund and there is no guarantee that these funds will be used for environmental or conservation purposes (Yap et al. 2016). More details on the Environmental Levy can be found in Section 2.3.1.

3.2.3 Philanthropic organisations

There are many philanthropic organisations that fund conservation initiatives. Some examples of Foundations that have or may fund initiatives in the Pacific include the David and Lucile Packard Foundation, John D. and Catherine T. MacArthur Foundation, the Rockefeller Foundation, the Moore Foundation, the Hewlett Foundation, to name just a few. The Foundations' funding strategy and priorities will drive their funding investments and these will change over time.

3.2.4 Private sector

Companies often contribute to public good initiatives, especially where there is a connection between the public good and their operations. In Ra Province, the large companies include the Fiji Sugar Corporation (FSC), Yaqara Pastoral Company Limited, and Fiji Water. There are also a number of small to medium-sized tourism facilities. All of these are part of the Ra ICM Committee. Most contributions to the implementation of the Ra ICM Plan is through staff time and joint implementation of the Ra ICM action plan, e.g. with FSC on sustainable sugar cane farming. Fiji Water, through Conservational International, has already contributed several million dollars for conservation in Fiji, including reforestation and waste management in the Ra Province. There are also large multinational and local companies such as Vodafone, Total and Flour Mills of Fiji that have foundations that fund development projects in Fiji. However, they have not targeted ICM in a significant manner but have assisted with providing water supplies to rural areas (Ra Province 2016). Resource extraction companies, such as mining companies, could also be companies to target in the future in the Ra Province. Considering their often significant impacts on landscapes, the International Council on Mining and Metals recommends the use of financial assurance in the form of strictly earmarked funds, so-called performance bonds, to support governance and the achievement of long-term environmental objectives (Miller 2005).

3.2.5 Individuals

The most likely individuals to target as part of financial/economic mechanisms are international tourists. Tourism numbers have increased by over 60% since 1999 (Fiji Bureau of Statistics 2016). There is concern, however, that, given the recent increase in revenue-based taxes that target the tourism sector, Fiji is becoming an expensive Pacific destination (Lal 2016), which may hinder continued growth of the industry.

4. MECHANISMS OPERATING IN FIJI (INCLUDING RA PROVINCE)

Financial and economic mechanisms are being used to address some environmental issues in Fiji. A majority of the mechanisms are price-based mechanisms that rely on the tourism sector and to a lesser extent private companies. Outlined below are a range of mechanisms currently in operation in the Ra Province as well as some that operate in other areas of Fiji. This is not an exhaustive list within Fiji but it does cover all the known mechanisms in the Ra Province at this time.

4.1 Taxes, fees, levies: Environmental levies

4.1.1 Fiji Environmental Levy and airport departure tax

The 2016 Budget for Fiji introduced an Environmental Levy that reinforces the Government's commitment for the right to a clean environment for all Fijians. The levy would predominantly target visitors staying in luxury accommodations and who come to enjoy the natural beauty and recreational opportunities in Fiji. Tourism operators will have to pay a small additional charge to support environmental protection programs (Fiji Revenue and Customs Authority 2016). However, it is not yet clear what and how these funds will be used (Isoa Korovulavula, USP, pers. comm., 10 June 2016; Susana Waqainabete-Tuisese, CI, pers. comm., 11 June 2016; Yap et al. 2016).

The Environmental Levy will be levied at 6% on the 'turnover' of prescribed service providers (which are listed under the Schedule of the Environmental Levy Act). In this instance, 'turnover' means the total charges for prescribed services billed to consumers. The levy is effective from 1 January 2016 (Fiji Revenue and Customs Authority 2016). It remains to be seen how this fund will be used to provide grants, seed funding or other forms of support for the establishment of financial or economic mechanisms to support environmental conservation.

There is also an environment levy within the Airport Departure Tax of FJD10. The revenue from this tax also goes into the Consolidated Fund with no specific targeting of this revenue for environmental purposes (Yap et al. 2016).

4.1.2 Challenges and opportunities for expansion

This has been established by a legislative Act providing the required legal mandate for the implementation of such a levy. If this revenue is recycled to support environmental conservation then the levy may provide a sustainable financing mechanism to establish and maintain a range of conservation initiatives. On the other hand, if this revenue goes into general funds and is not targeted toward conservation there is likely to be little environmental benefit from this levy. The RESCCUE project, along with other key stakeholders, may have a role in helping ensure that this revenue, or at least a specified portion of the revenue, is used for environmental conservation.

4.2 Taxes, fees, levies: Marine user fee systems

4.2.1 Shark Levy, Shark Reef Marine Reserve

This voluntary contribution system began in 2003 as an agreement between 2 villages who owned traditional rights to Shark Reef (between Viti Levu and Beqa Island) and a dive operator. The dive operator was granted access to the area in return for villagers not to fish on parts of the reef. The dive operator collected a voluntary daily park

contribution (currently FJD20 per diver; Beqa Adventure Divers 2016) from each visitor that was split equally between these two villages. The marine reserve at Shark Reef was formally established in 2004. Since then other villages have joined the initiative leading to an expansion of the protected area. They too receive a donation of the tourism revenue. Other incentives included in the agreement are dive master training for villagers, training of fish wardens to monitor the area, and the dive operator acting as the intermediary with the relevant Fijian authorities, helping to procure moorings and markers and assisting villages in the monitoring of protected areas (Brunnschweiler 2010).

4.2.2 Namena Marine Reserve

The Namena Marine Reserve is located between Viti Levu and Vanua Levu in the traditional fishing grounds of the Kabulau Community. The community not only wanted to protect their marine fisheries from over-exploitation from poaching and poor management but also wanted to develop tourism to provide a sustainable income for the community. To meet the costs of managing the area (e.g. patrols, moorings and fuel) they established a voluntary donation (currently FJD30/person) for those who visited the park which supports tertiary scholarships. Challenges still exist from the lack of adequate enforcement and laws to protect marine protected areas (Namena Park Reserve 2016). This reserve suffered substantial damage during Cyclone Winston (Mangubhai 2016) and it is currently unclear whether the resort which provided substantial clientele and dive liveaboards will continue to visit the Namena Reserve (Sangeeta Mangubhai, WCS, pers. comm., 26 April 2016).

4.2.3 Challenges and opportunities for expansion

As long as there is a charismatic resource about which visitors care and are willing to pay to visit, then voluntary contributions to conservation have the potential to provide regular income streams to communities. One factor to consider with voluntary contributions, however, is the local uniqueness of the place/species visitors are paying to see/use.

The overall cost of the experience is also likely to be an issue for some visitors, where costs include airfares, accommodation and meal costs as well as the cost of the experience. Costs are becoming an issue in Fiji where the taxes (VAT, Service Turnover Tax and Environmental Levy) paid by tourists have risen from 15.5% to 25% (or 61%), excise and import taxes have increased causing wine prices, for example, to increase by 53%, and departure taxes have also been raised. The cost base has also increased as well (e.g. for building supplies, fruit and vegetables) which is passed onto visitors (Lal 2016). These all increase the holiday costs for tourists, who compare Fiji with other destinations, and mean their appetite for a large quantity of new user fees by the tourism industry may be limited. The rising costs for tourism were a concern expressed by Helen Sykes (pers. comm., 4 May 2016) in terms of maintaining visitor numbers and the future of these kinds of fees.

The Regulation of Surfing Areas Decree 2010 (hereafter Surfing Decree) has also made the continued and expanded use of this kind of mechanism challenging. This decree 'enables unrestricted access to any surfing area by all persons, including tourists, hotels and businesses engaged in providing and promoting surfing or any other water sport' (Fiji Government 2010). This makes it difficult for communities to lease, license or use

some other instruments in relation to surfing areas (where surfing is defined as surfing and any water sport).

4.3 Subsidies and grants: Trust funds

4.3.1 Sovi Basin Trust Fund

The Sovi Basin Trust Fund was established as an endowment fund to provide financial sustainability of the Sovi Basin Protected Area in the Naitasiri and Namosi provinces of Viti Levu over the long term. The total amount targeted for the capitalisation of the Trust Fund is USD4.25 million (National Trust of Fiji 2013). The Trust Agreement was signed in 2010 with an initial endowment of USD3.627 (from contributions from Fiji Water and Conservation International's Global Conservation Fund (Yap et al)). The funds are invested in an offshore account – HSBC Trustee (Singapore) Ltd (Susana Waqainabete-Tuisese, CI, pers. comm., 15 June 2016). The GEF4 (PAS4: Forest Conservation and Protected Area Management Project in Fiji) is also contributing USD0.25m into the Sovi Basin Trust Fund. The first set of dividends from the Trust was paid to the communities in 2015 (Susana Waqainabete-Tuisese, CI, pers. comm., 29 June 2016).

The fund supports 3 areas:

- Annual royalty and lease payments to Sovi Basin Protected Area landowners.³ This includes an annual lease fee and an annual timber royalty (for standing trees) in lieu of timber harvest. This lease amount is determined by the iTaukei Land Trust Board (TLTB).
- Annual contributions to a Community Conservation and Development Fund. The Fund's purpose is to provide benefits to the six-landowning village communities.⁴ Not all members of the landowning villages are landowners, so to ensure that all village members have an incentive to protect the area, the fund has been set up to finance community projects. Depending on the accrued interest of the Trust Fund, an equal amount is disbursed annually to all communities.
- Management budget for the National Trust of Fiji which manages the protected area (National Trust of Fiji 2013).

The protected area, which the Trust supports, took approximately 9 years to establish. Conservation International began the engagement with the local communities in 2003, acquired a 5-yr development lease from the Sovi Basin's landowners in 2005 and 99-year lease for the Sovi Basin Protected Area was signed in 2012 between National Trust of Fiji (NTF) and TLTB (National Trust of Fiji 2013). The original size of the protected area was 23 400 ha but 7096 ha have been given to a mining interest (under the Section

³ The land within the area is communally owned by 13 mataqali: Buasauni, Buluya, Nabukebuke, Nakaulevu, Nakulasa, Naitavuni, Namataniqavi, Nasava, Nawaisomo, Tabaivunaqumu, Vetawa, Waibasaga, and Waituitui. Sovi Basin landowners are resident in six villages: Delailasikau, Nadakuni, Naivucini, Namosi, Naseuvou, and Nukusere. None of these villages is located within the SBPA but in a number of river valleys adjacent to the SBPA. The villages of Namosi and Nukusere are within the Province of Namosi. The four remaining villages are within the Province of Naitasiri.

⁴ These villages are Delailasakau, Nadakuni, Naivucini, Namosi, Naseuvou, and Nukusere.

11(2) of the Mining Act [Cap 14]⁵). The size of the protected area is now 16 304ha (Susana Waqainabete-Tuisese, CI, pers. comm., 15 June 2016).

While the Trust focuses on the Sovi Basin Protected Area, it was established with the intention and relevant legal status to allow the Trust to be expanded to include the protection of other areas. Additional areas currently being considered are in Tuva, Vunivia and Tunuloa. Funds from the GEF5 are being sort to establish the initial financing for these new areas (potentially from the Biodiversity Conservation Fund, Land Degradation Fund and Climate Change Fund) (Yap et al. 2016; Susana Waqainabete-Tuisese, CI, pers. comm., 15 June 2016).

4.3.2 Challenges and opportunities for expansion

Establishing Trusts for on-going conservation of the environment has merit. It is too early to assess the effectiveness of the Sovi Basin Trust Fund in terms of delivering community and conservation benefits. However, based on the learnings to date the successful establishment of Conservation Trusts should have:

legal protection status for the land/marine area which the Trust supports to ensure there is an ability to legally enforce the conditions of any agreement. To establish this likely requires:

- sufficient time to engage with landowners to jointly define and agree to the conditions of any protected area agreement, e.g. expectation for the community (such as no logging), expectation of the management entity (such as payments to the community) and to build trust and understanding between the parties;
- enforceable lease agreement, or similar, between resource owners and an independent manager of the protection area;
- establishment of a governance structure and management entity;
- an initial source of funds/endowment of sufficient size to provide an on-going revenue stream to manage the protected area and meet any of the financial obligations laid out in the legal agreement; and
- strong governance structure for both the management of the Trust and also the protected area.

Without these conditions in place then it is less likely that these Trusts will be successful.

4.4 Subsidies and grants: Environmental grants

4.4.1 Mamanuca Environment Society

This initiative can loosely be classified as a financial instrument as Fiji Airways is providing funds and personnel to support efforts to protect and restore dry forest habitat on Malolo Island where the Fijian Crested iguanas have been found. They were

⁵ www.paclii.org/fj/legis/consol_act_OK/ma81/

previously believed to be extinct on the Island. Fiji Airways is one of the major sponsors of the initiative (Mamanuca Environment Society 2016).

4.4.2 Challenges and opportunities for expansion

Grants rely on funding agencies, e.g. bilateral, government, private sector, philanthropic organisation to provide on-going funding to support an initiative. Where available grants are small then individual grants are likely the key mechanism to disperse funds. These will be uncertain in the medium to long term and the amount and longevity of the investment will depend on the strategic direction of the funding agency and the amount of funding available. If a larger amount of funding is available then trust funds or something similar could be established to provide a more reliable funding stream into the future (also see Section 2.2.3). The size of this revenue stream may be small and will depend on the performance of financial markets. In this situation, transparent and effective governance structures are required.

4.5 Environmental markets: Carbon market

REDD and REDD+ is a global initiative to stop tropical deforestation. It emerged under the UNFCCC in 2007 and there are now many nations developing their 'readiness' to receive payments for reducing deforestation against a business-as-usual baseline.

Fiji submitted a Readiness Preparation Proposal (R-PP) to the Forest Carbon Partnership Facility (FCPF) in 2013 and has received a 4-year readiness grant to implement the R-PP and develop a REDD+ strategy. The readiness grant will fund the implementation of the R-PP, which will start in 2014 and is expected to last until 2017 (4 years). It is likely that Fiji will develop a subnational level programme through pilot projects that will later be nested into a national programme. National pilot projects are underway in Emalu, Navosa province (Viti Levu) and Vinuvia (Vanua Levu). There are also community projects being implemented by Conservation International in Ra Province (Viti Levu) and by Live and Learn on Drawa (Vanua Levu) (the REDD desk 2016).

4.5.1 The Nakavaudra Forest Carbon Project

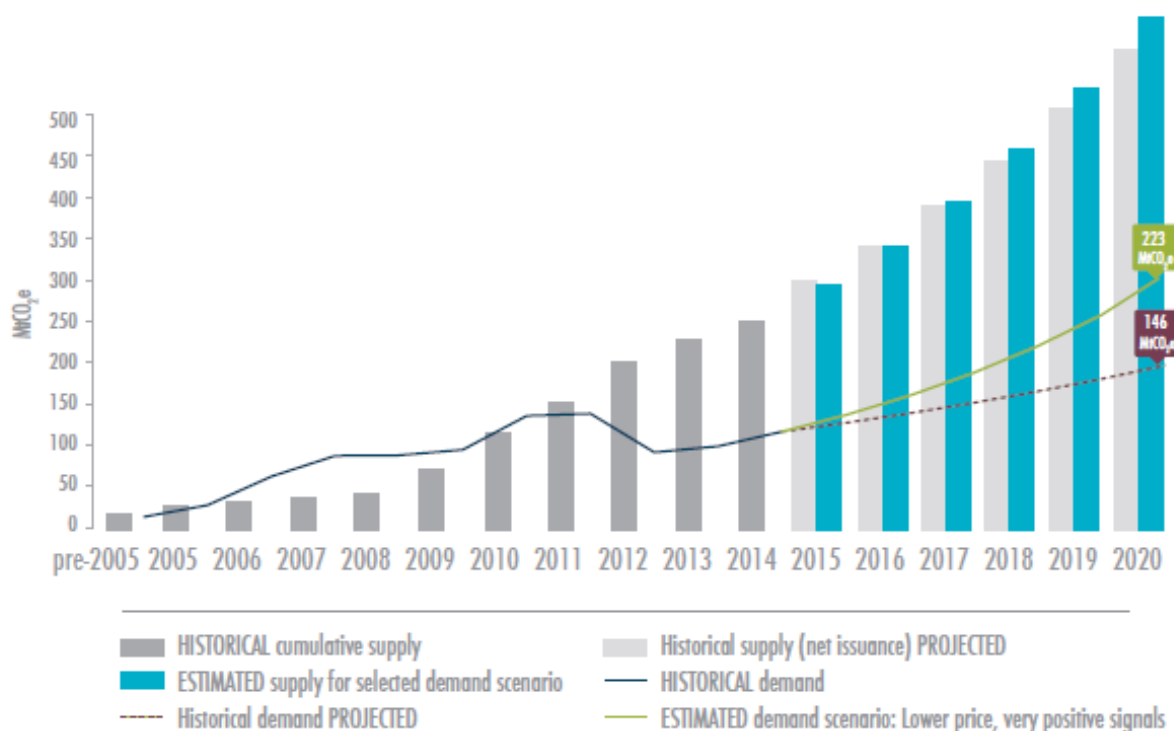
The project in Ra Province, The Nakavaudra Forest Carbon Project, is an integrated multiple benefit project to generate offsets to meet Fiji Waters carbon commitment, create a buffer around the Nakavaudra Range rainforest, and establish a restoration project that provides employment (through restoration activities in the short term) and sustainable timber harvest in the longer term. The project involves the planting of hardwood timber species for community income generation and native species on the steeper slopes. This project is expected to be verified against the Climate, Community and Biodiversity Standard and Verified Carbon Standard (Conservation International 2016).

4.5.2 Drawa Community REDD+ Project

The Drawa Community REDD+ Project, Vanua Levu, involves changing land use from logging to forest protection with carbon. The area is protected by a 30-year perpetually renewable lease covenant and the landowners have given up their rights to log timber and instead will sell carbon offsets. This project will generate 23 240 carbon credits annually, with the first issuance expected in the second quarter of 2016. Credits are certified to the Plan Vivo Standard (the Nakau programme 2016).

4.5.3 Challenges and opportunities for expansion

Most REDD+ projects rely on a solid demand for their credits to remain viable. To date, most of this demand has come from voluntary buyers and bilateral government deals as the compliance offset market for carbon has been slow to development. While demand has been increasing the sheer volume of supply far outweighs the demand for these credits (Fig. 2) (Forest Trends Ecosystem Marketplace 2015). This will be an on-going risk to these projects in the short to medium term (and possibly long term).



Notes: Estimates based on historical voluntary offset demand growth rate (9%) and historical offset issuance growth rate (30% year on year) after subtracting 1) non-issued volumes (est. 40% of potential supply); 2) retirement (average 40% of issued supply); and transacted volumes (variable, based on historical transactions). Projections assume a 10% annual project (and thus new supply) "dropout" rate; -7.2% average decrease in demand for given policy and price scenario; and -17.5% baseline decrease in supply for given policy and price scenario.

Source: Forest Trends' Ecosystem Marketplace. *State of the Voluntary Carbon Markets 2015*.

Figure 2. Historical voluntary offset (or credit) supply and demand including estimated future supply and demand based on an assumption of lower prices but very positive policy signals).

4.6 Ecolabels

4.6.1 Fiji's tuna industry

In 2012, the Fiji Tuna Boat Owners Association (FTBOA)'s albacore longline fishery was certified as sustainable by the Marine Stewardship Council (MSC). This was not only the first fishery to be certified in Fiji, it was also the first tuna longline fishery in the world to be certified (MSC 2016). The key opportunity with MSC certification is the potential to develop new markets in countries with high demand for certified sustainable seafood (WWF 2012).

4.6.2 Challenges and opportunities for expansion

This type of mechanism depends on the ability of an industry/area/organisation to meet certification requirements on an on-going basis and on markets being prepared to either pay a premium for these products or give preferential access for these products in their market. To achieve scale these mechanisms often rely on many small operators to individually meet the standards/requirements of the ecolabel.

The sugar industry in Ra Province is a likely candidate to target for eco-labelling. There has been one initiative that we know of where there has been some exploration of transitioning from conventional to organic sugar production (Rockamann 2007). However, no information seems to be available on the current status of this initiative and it is believed to have folded. The Fijian Organic Association is a body that could be leveraged to support the development of organic industries in the Ra Province (FOA 2016) and Secretariat of the Pacific Community also has been working to address some of the challenges around organic certification. Projects currently being certified in Fiji include *dilo* oil, virgin coconut oil, kava, fruit puree, vanilla pods, pepper, cinnamon, nutmeg, turmeric, ginger, lemon grass and livestock (Valemei 2015).

There are also some global sustainable agriculture certification programmes that exist as well. For example, the Sustainable Agricultural Network (SAN) has a certification standard that could be applicable (SAN 2010). While it does have certification bodies operating in Papua New Guinea, it currently does not have any certification bodies in Fiji or the other Pacific Islands. It also doesn't have sugar as one of the crops it certifies. It does however certify cattle (Milder and Newsom 2015) which could make the Yaqara Pastoral Company Limited a possible option as well.

Any eco-labelling or certification initiative will need to have the backing of the local farming community as well as any of the processing industries if it is to be successful.

5. OPPORTUNITIES FOR USING ECONOMIC OR FINANCIAL MECHANISMS TO SUPPORT THE RA PROVINCE ICM

There are eight issues identified for the Ra Province that are covered in the Integrated Coastal Management (ICM). These issues are outlined below, including some of the key initiatives for some of the issues where financial/economic mechanisms may support or play a role.

- i. *Gravel extraction*: Riverbed gravel extraction can trigger bed degradation by modifying the flow of water and the grade of the channel, and by reducing the natural supply of gravel to the downstream channel. Degradation is often accompanied by lateral instability and changes in channel width, triggering bank erosion in formerly stable reaches. In Ra, gravel extraction has occurred in wade-able streams. This is detrimental to the abundance and diversity of fresh water fish species (Ra Province 2016). The biggest challenge with gravel extraction appears to be that companies/persons extracting gravel do not hold a licence. It is believed that they approach landowners directly to take the resource or operate under a licence for another province (IAS 2016). Enforcement actions are likely the most effective approach to address this challenge to enable better control of the activities and understanding of the cumulative effects of the activities to reduce the impacts. While taxing these activities or charging licence fees may be possible, such systems are likely to be subverted until regulation requiring companies/persons who extract gravel in the province to obtain a

licence is enforced. It is unlikely at this stage that a financial/economic mechanism will assist in addressing this issue.

- ii. *Burning*: The burning of open land is common in Fiji including Ra Province. The burning is primarily to facilitate hand harvesting of sugar cane, clearing of forest plots, fallow fields, and secondary vegetation for agriculture, and to provide “new grass” for village cattle, horses and goats (this is the most extensive burning). Burning is also used to facilitate wild yam collection by clearing vegetation on lower hill slopes, clearing overgrown tracks and roadsides and to aid wild pig hunting (Ra Province 2016). Some of the key actions identified within the management strategies to address burning relates to increasing alternative livelihoods for communities and the restoration of grasslands and degraded areas. Financial and economic instruments, in this instance, could be used to facilitate and incentivise villages and landowners to halt burning practices. This could be through the development of alternative livelihoods in the more marginal areas of the province or areas that are more highly degraded, or through payments to restore land such as those that could be related to carbon markets. Mixed models related to permanent revegetation alongside commercial species to generate income is a model that has merit. This provides better alternative income sources and environmental protection. Greater enforcement with agricultural farming and logging laws to promote compliance will assist with the adoption of more sustainable land management practices.
- iii. *Poaching*: Tabu areas can be protected against outside fishing through conditions on permits but these licenses and permits only apply to non-resource owners and resources owners fishing for trade or business. Resource owners not fishing for trade or business cannot be legally compelled to refrain from fishing in tabu areas. The exception is if a tabu area has been gazetted as a restricted area under the Fisheries Act. The creation of by-laws has been a potential mechanism for communities, through their Provincial Council, to legally regulate and punish community members for fishing in tabu areas. In Ra Province, the poachers are primarily the resource owners either from within or outside their districts and province (IAS 2016; Ra Province 2016). Similar to the burning issue above identifying and establishing alternative livelihoods is one mechanism that could be used to reduce the incidence of poaching. Tied to this could be payments to incentivise local resource owners to halt poaching activities. Given poachers are likely individuals within communities, it will be challenging to design a governance structure that equitably distributes any funding received to stop fishing between poachers (who may not be known with certainty) and the rest of the community. Care would also have to be taken not to send a signal to resources users that they will receive a payment to stop an illegal activity as this may result in an actual increase in poaching. Therefore, compliance actions, at least initially, may be the best approach to take. Enforcement combined with provisions for alternative livelihoods is likely to be the most effective set of actions to take.
- iv. *Destructive fishing methods (freshwater systems)*: Destructive fishing methods often result in irreversible damage to the fisheries habitat and ecosystems. In Ra Province some methods being used include: use of Derris roots (duva) in

streams, creeks and sea with catches sold; insecticides, pesticide and other chemicals to poison prawns (fertilizer NPK mixed with bleach); crow bars to take apart coral habitats of fish; nets less than 2 inches; underwater breathing apparatus; and catches less than legal size (Ra Province 2016). Similar to the poaching issue above, many destructive fishing methods are illegal and the same caveats hold for payments to stop these fishing methods and the danger that this may increase the use of these methods to receive a payment. While the ICM plan identifies income generation incentives like a tourism tax as an option in their management strategy (Ra Provincial Office 2016) it is questionable whether this is a viable option. A number of tourism taxes already exist in Fiji (Lal 2016) so it is unlikely that a specific tax could be established at the provincial level to do this. There is also growing concern that the increase in revenue-based taxes (VAT, Service Turnover Tax and the Environmental Levy) is making Fiji an expensive destination which will result in a decrease in tourism numbers (Lal 2016). Even if the tax rates were not already considered high it is unlikely for a tourism fee system or something similar to be successful. This is primarily because freshwater systems do not hold the charisma of other natural environments such as the soft corals in the nearby Vatu-i-Ra Seascape. Therefore, a mixed model of enforcement and alternative income streams is more likely to be a successful approach to use.

- v. *Community waste management*: Poor waste management is a serious source of pollution in coastal areas. Rural areas often lack the infrastructure and formally organized solid and liquid waste management systems. This impacts human health and decreases aesthetic values of rural villages and their surroundings (Ra Province 2016). This is largely a point source issue related to both household wastewater and industrial waste. In most instances, the remedial solution is improved infrastructure with a high initial investment and substantially lower maintenance costs. Subsidies and grants are therefore likely to be the most effective mechanism to fund that initial infrastructure investment. These mechanisms rely on government/bilateral/multilateral funding or philanthropic grants. For industrial waste, enforcement threats and actions are likely to send a clearer signal that industrial facilities are required to manage their wastewater appropriately.

- vi. *Unsustainable farming practices*: Unsustainable farming practices have on-site (on agricultural land) impacts such as shallow drainage, soil loss, runoff creating water ways, soil fertility loss, underdeveloped crop growth and poor soil structure. Off-site (beyond agricultural land) impacts include water pollution, sedimentation (sea and rivers), reduction of river and drainage capacity, flooding and siltation. Some practices in Ra Province are unselective felling of trees on slopes; lack of soil conservation practices on marginal slopes, river banks and slopes; planting of crops immediately adjacent to rivers; overgrazing on slopes; tree clearance on river banks; and over-use of agrochemicals on commercial crops (Ra Province 2016). A subsidy to implement alternative farming practices is an economic instrument that could be used in this context. Subsidies are typically (but not always) paid by government. Subsidies combined with landowner training and demonstration farms may be effective. It is unclear, however, whether the government would be willing to put funds aside to finance

land management subsidies. With sustainable land management being low on the agenda of the Fijian government (Inoke Ratukalou, Director of Land Resources SPC, pers. comm., 26 February 2015), government financing of land management subsidies is doubtful. The private sector, such as the FSC, could also provide subsidies to cane growers to change their practices. However, the poor financial state of FSC (Narsey 2016) is likely to mean this also is not a viable option. Boosting revenue streams through eco-labelling could be another option, e.g. use of organic pesticides (as mentioned in the Ra ICM plan) or organic farming. This option would only be applicable for commercial crops such as sugar, given such crops can be marketed and priced to reflect the cost of organic farming. A 2001 report noted that despite a marked increase in the supply of organic sugar, the demand potential for organic sugar is not being met because supply remains limited (Gudoshnikov 2001). The demand for organic products is growing with a 25% growth in organic sales between 2008 and 2011 (Sugar Producer 2013). This demand growth provides a positive signal that if the logistical challenges of moving to and becoming certified as organic could be overcome there should be a market for organic sugar.

- vii. *Vatu-i-Ra Marine Conservation Park*:⁶ A voluntary contribution to conservation scheme for dive tourism can offer economic benefits and an income stream to local communities to promote conservation awareness and support coral reef management. A system for Vatu-i-Ra in Nakorotubu District has been identified (Ra Province 2016). This mechanism is being modelled on other user systems in other parts of Fiji with a voluntary contribution being made by divers visiting the world-renowned soft corals (note these soft corals are found throughout the Vatu-i-Ra seascape not just in Naborotubu District where the protected area is located). Given the level of engagement with communities around the use of this kind of mechanism it is one of the more promising options for protecting marine areas while also providing a revenue stream for communities. While discussions have begun there are many aspects to the design and governance of such a mechanism that have to be worked through. A more detailed feasibility assessment of this voluntary contribution to conservation scheme is outlined in Section 4. This assessment confirmed approaches and identified issues that are not being (or have not yet been adequately) addressed during the design and implementation phases for this mechanism.
- viii. *Black sand mining*: Black Sand mining (for iron) is being explored and Tengy Cement (the mining company) has requested a special prospecting license for Vitilevu Bay. The communities potentially affected are discussing the declaration of a marine reserve in the area to protect the coastal zone (Ra Province 2016). It is early days for the Black Sand Mining venture and it is still uncertain whether mining will be pursued in the area. If mining is feasible and a mining licence is granted then the coastal area will be significantly affected by the operation. Even if the communities are able to establish a marine reserve, this does not necessarily provide protection for the marine reserve as the Mining Act [Cap 14] allows the Minister to grant mining concessions in legally protected areas (as

⁶ This is called the Vatu-i-Ra Marine Protected Area in the draft Ra ICM Plan (Ra Province 2016).

seen in the Sovi Basin Protected Area). If this situation arose, then pursuing the use of biodiversity offsets (see Box 1) to compensate for habitat loss due to mining could be explored. While biodiversity offsets are still in their infancy globally, many lessons have been learned on their use and implementation, and these could be drawn on. For example, the application of the ‘avoid, remedy, mitigate’ hierarchy to reduce the extent of environmental damage and the setting up of governance structures to ensure the offsets are real, measurable, and effective. There have been no biodiversity offsets to date in Fiji and the legal requirements for biodiversity offsets in Fiji would need to be closely examined. In addition, financial assurance instruments have been used with success outside of Fiji to ensure environmental objectives set out in mining licenses are met (Miller 2005).

Box 1: Defining Offsets

Offset is one of the most confusing terms in the environmental market literature as it is applied with similar, but slightly different, meanings by different markets. Regardless of the context, offsets usually refer to an action that compensates (fully or in part) for the loss of environmental quality. For instance, where entities are unable to reduce their pollution discharge they may compensate for this by purchasing an ‘offset’ from other entities that can decrease their pollution discharge.

‘Offset’ is commonly used in greenhouse gas and carbon markets, and increasingly in biodiversity markets. In a compliance carbon market, offsets refer to the reduction in greenhouse gas emissions (either credits from non-regulated entities or allowances from other regulated entities) purchased to meet regulatory caps. In voluntary carbon markets, offsets mitigate an entity’s own greenhouse emissions. These offsets are generally in the form of credits from non-regulated entities who have implemented an emissions-reducing project.

For biodiversity, offsets have been defined as “conservation actions intended to compensate for the residual unavoidable harm to biodiversity caused by development projects, so as to ensure no net loss of biodiversity” (ten Kate et al. 2004). However, the term “biodiversity offset” is increasingly used as a generic term for a variety of regulatory and voluntary biodiversity compensation programmes that are otherwise known as mitigation banking, biodiversity banking, biodiversity trading, conservation banking or species banking.

6. VATU-I-RA VOLUNTARY CONTRIBUTION TO CONSERVATION SCHEME

This section is a more in-depth feasibility assessment of the voluntary contribution scheme being proposed around Vatu Island in the Vatu-i-Ra Seascape. Discussions around how to provide sustainable income streams for local communities have been underway since 2014. While the intent of the protected area has remained constant there has been and is still some flux around what mechanism(s) would best suit this context. Currently a voluntary contribution scheme is being proposed. The remainder of this section outlines the findings of the feasibility assessment. The feasibility assessment is based on a methodology developed for the Fiji RESSCUE project (Greenhalgh 2016), and draws from project feasibility assessments, ecosystem service assessments and market assessment used for business decisions.

6.1 Background

6.1.1 Location

The proposed Vatu-i-Ra Conservation Park surrounds Vatu Island, more commonly known as Vatu-i-Ra Island (Fig. 1). It is a small uninhabited island with an area of 0.023 km² (2.3 ha), located in the Vatu-i-Ra channel between Vanua Levu and Viti Levu, about 15 km from the coast of Ra. Vatu-i-Ra Island is listed as a *Site of National Significance* in the Fiji National Biodiversity Strategy and Action Plan (NBSAP), and is one of the 28 internationally important bird areas recognized by BirdLife International for Fiji (WCS 2016). The proposed Park boundary has coral reefs on the northern and western edges of the area.

6.1.2 Marine area

The surrounding waters of Vatu-i-Ra Island support a diversity of marine life. The main habitats within the proposed Conservation Park are fringing coral reefs, lagoons, reef flat, pinnacles, and shallow and deep terraces. In 2013 a reef survey documented 121 species of food fish and 47 genera of corals (WCS, unpublished data). The coral community was healthy, with an average hard coral cover of 25% (WCS, unpublished data). The people of Nasau have also seen dolphins and whales in the vicinity of the island, and divers have seen both hawksbill and green (*Chelonia mydas*) turtles. The fish biomass measurements indicate there is fishing pressure on the reefs.

6.1.3 Owners

The Nagilogilo clan (*yavusa*), who are traditional owners of the island and surrounding marine area, reside in the two villages of Nasau and Navuniivi in the Navitilevu District, within the larger Nakorotubu District in the Ra Province on Viti Levu. The clan has strong cultural and historical ties to the island, as it was believed to be an old village site (WCS 2016).

6.1.4 Governance

The *qoliqoli* or traditional fishing grounds surrounding Vatu-i-Ra Island is part of the Nakorotubu district. The area, which is referred to as *qoliqoli* Cokovata Nakorotubu, is shared by all 28 villages in the Nakorotubu District. The *qoliqoli* is communally owned by the amalgamated vanua of Nakorotubu. This consists of 45 clans (*yavusa*) within 7 districts (*tikinas*). Decisions relating to *qoliqoli* Cokovata Nakorotubu are made at district level through the Bose Vanua Cokovata Nakorotubu (Hierarchy Council) (WCS 2016).

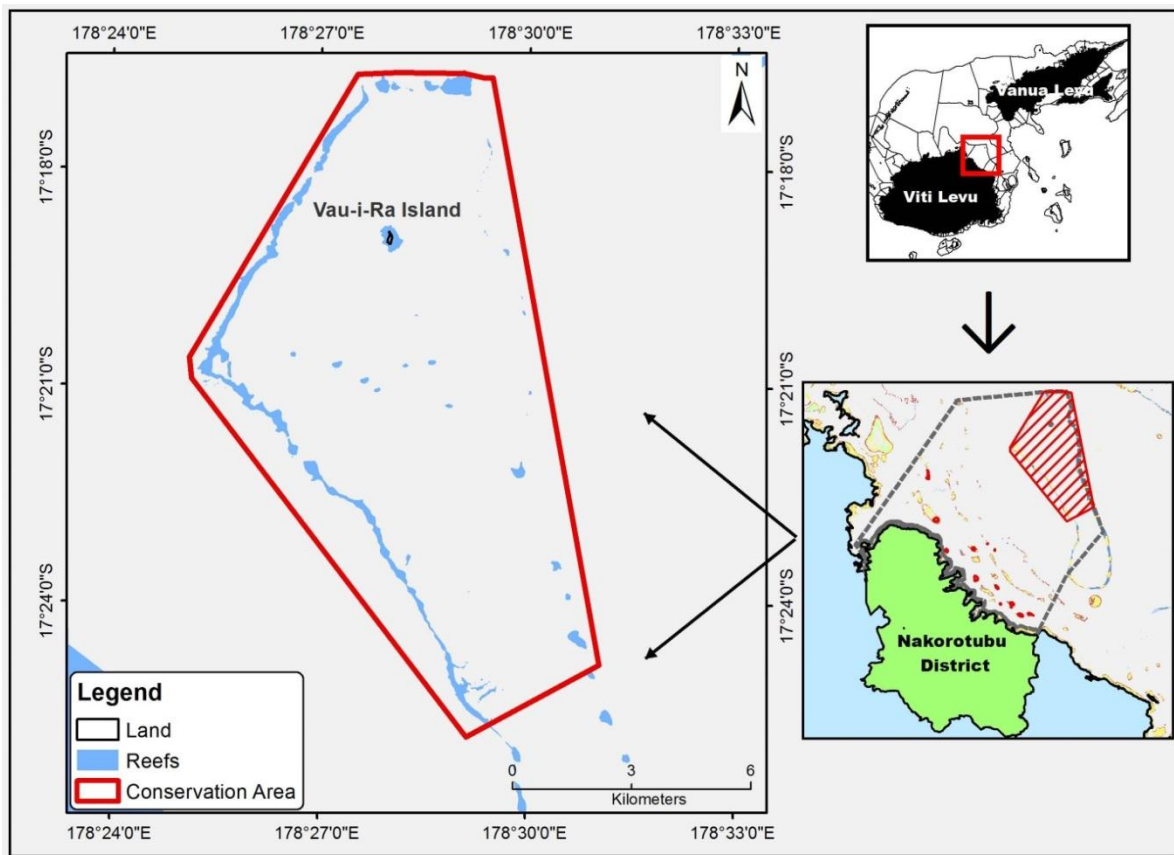


Figure 3. Boundaries of the proposed Vatu-i-Ra Conservation Park (Source: the Wildlife Conservation Society)

6.1.5 Users

Given the distance from urban centres, people in the traditional Nakorotubu District depend heavily on their natural environment for sustenance and income. Key marine resources in the area include seabirds, reefs (snorkelling/diving spot for tourism and recreational users, game fishing on reefs south of Vatu-i-Ra Island), turtles and fish. Key marine income generating resources are fish, sea cucumbers and other invertebrates, and coral reefs. Traditionally, fisherman from all the villages along the coast have stopped on Vatu-i-Ra Island and opportunistically harvested both seabird eggs and chicks, and fished on adjacent coral reefs.

The sustainable subsistence and commercial inshore fishing catch in the Vatu-i-Ra Seascape (Fig. 3; the seascape is a far larger area than the proposed Conservation Park covering 25 584 km²) is estimated at approximately 5360 tonne/year. In 2007, the estimated inshore catch was 6280 tonnes, which is 17% greater than the sustainable yield. These extraction rates are likely approaching the threshold for impending reef degradation. This fishing pressure could be associated with the development of the Natovi Fisheries Centre (Kastl & Gow 2014). The northern part of the proposed Conservation Park has been a *tabu* area for at least 2 years. There are no fish catch data for the new areas proposed for inclusion in the Conservation Park.

The tourism in the Vatu-i-Ra Seascape is unique as it focuses on the luxury and boutique tourist market. In 2013, this sector made up 16% of the visitors but accounted for 50% of the gross tourism revenue in the Vatu-i-Ra Seascape. The remaining tourists were approximately evenly split in revenue earnings between the mid-, high-end and dive live-aboard ships market. In total, the reef-based tourism for the Vatu-i-Ra Seascape was approximately FJD47.2 million in 2013 (Kastl & Gow 2014).

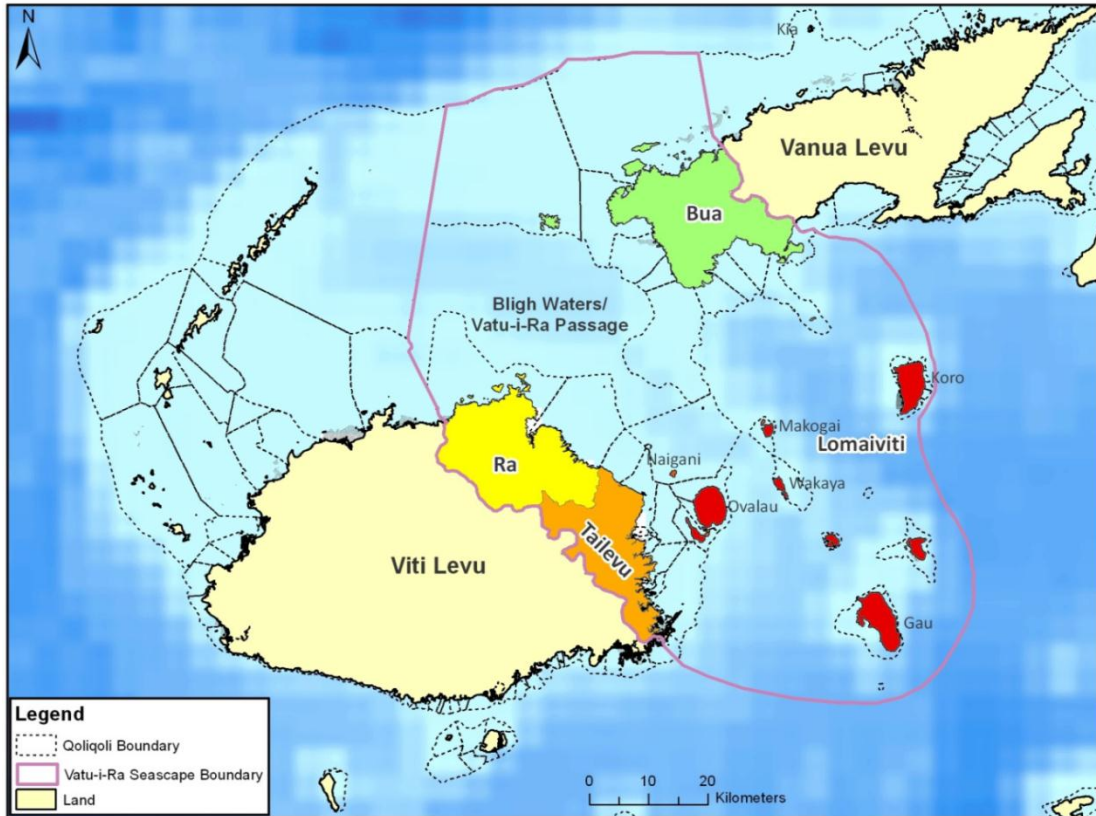


Figure 4. Vatu-i-Ra Seascape

Figure 4 shows the Vatu-i-Ra Seascape, outlined in purple. The seascape includes the four provinces of Ra, Tailevu, Bua, and Lomaiviti. Dotted boundaries represent traditional fishing (*i qoliqoli*) boundaries (these represent the in-shore areas). Areas outside the *i qoliqoli* boundaries are the archipelagic waters (Source: Wildlife Conservation Society).

6.1.6 Issues

Invasive species such as rats, mongoose, and cats are the highest potential threats to terrestrial species on Vatu-i-Ra Island and have been eradicated by BirdLife International. These invasive species will kill breeding seabirds and other native species such as the pygmy snake-eyed skink. To avoid the introduction of invasive species, the Vatu-i-Ra Island Biosecurity Plan specifies the mandatory biosecurity protocols and procedures to be followed by any visitor to Vatu-i-Ra Island (WCS 2016).

There have been efforts by the Nagilogilo clan to control visitor numbers to the island. However, due to its isolation from the mainland and because it is uninhabited, policing of the island has proved to be less successful. Visitors to the island, including local fishermen from Dawasamu in Tailevu to Malake in Ra, often do not follow Biosecurity protocols and do not obtain prior approval from the traditional owners of the island (WCS 2016).

The marine threats to the reefs and waters surrounding Vatu-i-Ra Island are less documented. Fish biomass is declining and reports from local communities and dive operators suggest that outside fishers are fishing in the Conservation Park. The proposed Vatu-i-Ra Conservation Park (Fig. 1), which encompasses Vatu-i-Ra Island, is approximately 15 km off the coast of Ra, making it vulnerable to poaching from outsiders (WCS 2016). Dive operators report seeing village fishing boats a couple of times a month but are not able to determine where these fisherman are from (Alexx Edwards, Nai'a,⁷ pers. comm., 2 May 2016).

6.2 Description: Proposed economic instrument

Vatu-i-Ra Conservation Park Management Plan (Fig. 1) includes a sustainable financing mechanism. The Vatu-i-Ra Conservation Park aims to support long-term sustainable development in Nakorotubu by maintaining the health and productivity of the district's ecosystems. To promote the conservation of this unique area, the Nagilogilo Resource Management Committee (NRMCM) and the local communities in the district of Nakorotubu have formed a partnership with the local dive operators to establish a voluntary contribution to the conservation scheme, to support the long-term management of the Park and generate income for local communities.

This voluntary scheme would be utilised by dive operators visiting the Conservation Park with contributions given to an administrative body established to administer the contribution (preliminary discussions to date have indicated that such a body should include dive operators and representatives of the communities and the Ra Provincial Office). This administrative body would manage and disburse funds in return for agreed conservation objectives. It is expected that these objectives would include a permanent no-take area for fishing. As the Conservation Park and administrative body is established, further consultation will be undertaken to determine and finalise what the donations can be used for and how to allocate the donations between the communities who have access rights to the traditional fishing grounds. In return for this contribution, the villagers would not fish in the Conservation Park. This reduced fishing pressure is expected to preserve healthy fish stocks, thus maintaining the dive experience for dive tourists and providing recruitment fish stock for adjacent areas outside the Conservation Park. In addition, this will provide biodiversity outcomes (through improved fish numbers and potential species diversity) as well as contribute to the Fijian government's protected area commitments (Aichi Target 11; see Box 2).

Box 2: Fiji's SIDS and Aichi Target 11 commitment

The Fiji government in 2005 at the Small Island Developing States (SIDS) conference in Mauritius committed that "by 2020, at least 30% of Fiji's inshore & offshore marine areas (*qoliqoli*) will have come under a comprehensive, ecologically, representative networks of MPAs, which are effectively managed and financed". This was reaffirmed at the SIDS meeting in Samoa in 2014. This commitment has now been reflected in the Fiji's Green Growth Framework, and will contribute to meeting Aichi Target 11 under the Convention for Biological Diversity.

⁷ Nai'a is one of the live-aboard dive adventure operators that use dive sites in the Vatu-i-Ra Seascape.

6.3 Alternatives to explore

There are a number of alternative economic instruments that were considered to preserve the reef and surrounding marine ecosystems in the Vatu-i-Ra Seascape. These included:

- No economic/financial instrument is implemented
- A voluntary tourist user fee, where divers pay a per person fee to dive on the reef
- Recreational leases/licences – Dive and tour operators pay a set fee each year to dive in the Conservation Park regardless of number of visitors
- Fishing regulation – Regulation to restrict or prohibit the taking of fish (under Section 9 of the Fisheries Act). Excluded from further consideration as an instrument to pursue as it would not provide any incentives or income for the community
- Foreshore leases – lease to enable community to better monitor and control fishing pressure in the proposed Conservation Park
- Proposed instrument – Voluntary contribution to conservation scheme, where divers pay to use the reef in return for the village fishers not fishing in the proposed Conservation Park and creating a permanent no-take area. This payment is for an environmental service (i.e. no fishing) not for a service (i.e. diving). The contribution system is similar to what has successfully been used in the Namena Marine Reserve in Kubulau District, Bua Province.

6.4 Criteria for the decision

Six criteria were discussed and deemed important for determining which instrument would be most appropriate to provide sustainable financing for the Vatu-i-Ra Conservation Park. These criteria were based on the two potential revenue streams in the Park – tourism and fishing.

The criteria included:

- i. **Legal standing:** The instrument must be feasible under existing legislation. In the Fijian context, the Surfing Decree is likely the most relevant piece of legislation to consider. As noted earlier, this decree ‘enables unrestricted access to any surfing area by all persons, including tourists, hotels and businesses engaged in providing and promoting surfing or any other water sport’ (Fiji Government 2010), making it difficult for communities to lease, license or use some other instruments in relation to surfing areas (where surfing is defined and surfing and any water sport).
- ii. **Ecological integrity:** The instrument does not lead to degradation of the coral reef and surrounding marine ecosystem.
- iii. **Regular income stream:** The instrument needs to provide a regular income to encourage communities not to fish within the Park boundaries, given that the Conservation Park area provides some subsistence fishing for villagers.
- iv. **Support:** Unless the affected parties (in this instance potentially affected parties are communities, fisherman and dive operators) buy-in to the instrument/agreement there is a lower likelihood of voluntary compliance to the conditions of the instrument/agreement.
- v. **Administrative burden:** Must be administratively simple to implement and collect financial contributions. Communities may not have many resources

(financial or skills) to manage complex forms of financing. Any instrument must therefore be simple and transparent to operate.

- vi. Scope: Instrument can be applied to multiple parties to increase the revenue stream while maintaining accessibility to the resource, e.g. dive operators (i.e. allows access to multiple dive operators).

6.5 Market assessment

The market assessment considers the supply and demand of the environmental good or service.

6.5.1 Supply of the environmental good or service

The supply-side assessment used a series of questions to structure the description of supply.

- i. *What is the size of the resource from which environmental goods and services are being derived?*

Dive-related information:

The dive sites are found in the northern part of the proposed Vatu-i-Ra Conservation Park. One dive operator also offers catch and release fishing. As yet, game fishing as a tourism offering has not been explored to any great extent but could, in the future, be another attraction for tourists to the area (Helen Sykes, Resort Support, pers. comm., 4 May 2016).

The reef area visited appears to be able to sustain four diver operators without any stress on the system. There is insufficient information, however, to ascertain how many dive operators the reef could sustain. The constraining factor is likely the number of potential divers who would like to visit the reefs in the area, rather than any stress placed on the reef by current divers.

There are a number of dive sites in the proposed Vatu-i-Ra Conservation Park area. Nai'a has about 9 dive sites they currently use in the proposed Conservation Park (with at least 30 dive sites in the wider Vatu-i-Ra Seascape), while the Volivoli Beach Resort has about 15 dive sites. The Volivoli Beach Resort goes out to the area at least 5 times per week. The land-based dive operators typically do 2 dive sites per trip, while the live-abroad boats do approximately 10 dives over the length of the charter (the number depend on the length of the dive charter and other factors such as weather conditions). The *Nai'a* typically spends about 1 day per charter in the proposed conservation park area while the *Siren* sends at least 2 days (Alexx Edwards, Nai'a, pers. comm., 2 May 2016; Nick Darling, Volivoli Beach Resort, pers. comm., 16 May 2016).

All dive sites are located in a very small area and therefore only cover a small portion of the proposed Conservation Park (less 10% of the total proposed conservation park area). Most known dive sites are found within 200m of the Vatu-i-Ra Passage (Nick Darling, Volivoli Beach Resort, pers. comm., 16 May 2016).

Fishing-related information:

To sell fish commercially requires a fishing licence. This licence is for a specific area (typically within the district qoliqoli area).

There is believed to be some poaching in the area. These fishermen may hold fishing licences but are fishing outside of the area they are legally able to fish (Sangeeta Mangubhai, WCS, pers. comm., 26 April 2016).

In 2007, the estimated inshore catch (6280 tonnes) in the wider Vatu-i-Ra Seascape was approximately 17% greater than the sustainable yield (Kastl & Gow 2014). Catch data with the proposed conservation park is not known though.

There are some village fishermen that fish in the area of proposed Conservation Park but no long line fishing boats have been seen in the area (Alexx Edwards, Nai'a, pers. comm., 2 May 2016). Approximately 75% of tuna catch in the Western and Central Pacific Ocean (WCPO) is caught using purse seine gear, 10% by longline, 13% by trolling and 7% by pole and line⁸ (SPC 2016).

Is the production of or access to or use of the resource and environmental goods and services seasonal? If so, when and how long is the season?

There are no seasonal issues with the dive operator trips. However, the dive sites are exposed so they require good weather for dive trips to be made.

Some of the fish species catch is seasonal, and the species available will change through the year. Due to the distance from the coast, fishing in the area is restricted to good weather.

Has the condition of the resource declined or improved over time?

Overall, reef condition in the proposed Conservation Park is still good, especially around the main sites targeted by tourism operators. WCS has 2011 and 2014 reef health data, and a recent (May 2016) rapid assessment (Box 3, Mangubhai 2016) and detailed survey under the RESCCUE project to assess the impact of Cyclone Winston on coral reefs.

There was considerable damage to coral reefs along the western edge of the Conservation Park, particularly in 5–18 m of water. There was extensive coral breakage, coral abrasion, dislodgement of large coral colonies, and structural damage to the reef framework. Reef fish surveys suggested a decline in fish species composition and biomass, likely associated with the loss of coral habitat caused by cyclone Winston. In contrast, the reefs in the north, which are targeted by the dive industry, are largely intact and therefore still provide a service to the industry. Fish life in the north was abundant, and apart from losses in sea fans and soft corals, the reef structure and coral community are intact. There had also been some coral bleaching in the month before the cyclone (Mangubhai 2016), but this has largely dissipated as water temperatures have now dropped 1–2°C (WCS, unpublished data).

Does the use of the resource affect its continued supply of environmental goods and services related to the resource (e.g. degrade the resource)?

Diver usage: There is no expected degradation to the reef from diving. Given the dives are along cliffs, there is less chance of divers damaging the reef. The divers who visit the

⁸ Note: the percentages of tuna catch by different gear types add to more than 100%. This is due to rounding errors.

area are also highly experienced, with more than 100 dives, so are less likely to damage the reef (Alexx Edwards, Nai'a, pers. comm., 2 May 2016).

Fish take: The current proposal is that the Conservation Park will be predominantly a no-take area, with a catch and release fishing zone outside the reef area on the eastern and western side of the proposed Park area. Catch and release fishing should place little, if any, pressure on the fish stocks.

Box 3: Impact of Cyclone Winston on the Vatu-i-Ra Seascape

Cyclone Winston, a category 5 cyclone, passed through the Vatu-i-Ra Seascape on 20 February 2016. It had winds up to 185 mph, and gusts of 225 mph. The cyclone impacted on much of the landscape and most of the communities located in the Vatu-i-Ra Seascape.

A rapid assessment of coral reefs in the Vatu-i-Ra Seascape was undertaken in March 2016 and focused on tourist sites. The assessment was to document (a) the impact of Cyclone Winston on coral reefs in the Vatu-i-Ra Seascape; (b) the extent and intensity of coral bleaching on corals; and (c) the health and diversity of areas being considered for inclusion in deeper water marine managed areas. Data were collected on benthic cover and coral bleaching, and observations were recorded of the damage to coral reefs.

The cyclone caused significant damage to coral reefs up to 20–30 m below the surface in the Vatu-i-Ra Seascape. Damage was greatest in the north part of the area – where the eye of the cyclone passed – and lowest in the south. The degree of destruction was highly variable through. There was no clear pattern to the damage, with both windward and leeward reefs equally impacted. There was extensive coral breakage, coral abrasion, dislodgement of large coral colonies, and structural damage to the reef framework. While no data were collected on reef fish, there will likely be changes to fish species composition and biomass, especially in areas that sustained high coral and reef structural damage, like the Namena Marine Reserve (which is outside of the proposed Vatu-i-Ra Conservation Area). A reduction in corals and the reef structure will reduce the available habitat, which may make some species more vulnerable to predators (Mangubhai 2016).

Are there any competitors for the use of this resource?

Diving: There are currently 4 dive operators in the area. Due to the distance from the coast there are not expected to be a large number of additional diving operators coming to the area. However, the size of the area and the number of good dive sites mean it is likely to be able to sustain additional dive operators.

Fishing: One dive operator also runs a catch and reef fishing service. The proposed Conservation Park is not close to shore so there are threats of poaching due to the challenges of enforcing illegal fishing. Most poachers will be other licenced fishermen from other parts of the Fiji (there are unlikely to be any foreign fishermen). Given the area has been a *tabu*⁹ area for a long time, there are few community fishermen fishing in the area. The *tabu* area covers the area north of the Vatu-i-Ra Island to just below the island. Most fishing is currently in the southern part of the proposed Conservation Park.

Are there any substitutes available (e.g. other locations of the same/similar resource, similar goods or services)?

⁹ Customary no-take area. These areas can be removed or the location changed at the discretion of the village. They are not, however, legally enforceable.

Reefs for diving: The Vatu-i-Ra Seascape has some of the best dive sites in Fiji. One of the dive operators, Alexx Edwards (Nai'a), noted they did a lot of exploratory diving around Fiji using a combination of light aircraft surveillance and test dives before settling on the Vatu-i-Ra sites as they were so much better than other areas. They also stated that they 'would be in trouble without Vatu-i-Ra as the clients expect to see the best coral that Fiji has to offer'; and as their clients are 'experienced serious divers' and have a '60% return passenger rate' they have high expectations (Alexx Edwards, Nai'a, pers. comm., 2 May 2016). There are other dive sites near Namena that were also visited but with the Namena reef being badly damaged Nai'a can no longer visit that area until the reefs have sufficiently recovered. Nai'a has, however, added sites around Taveuni to replace the Namena sites.

Fishing area: Given the area has had a *tabu* for many years the village fishermen have already located other fishing grounds.

Can different management practices change the supply of the environmental good or service?

Divers do not affect the condition of the coral reefs. Overfishing, however, can degrade the quality of the reef. The proposed Conservation Park is an attempt to reduce any future fishing pressure on the reef.

6.5.2 Demand for the environmental good or service

Similar to the supply assessment there are a number of questions that were used to assess demand. These include

Who is the target customer(s) or user(s) of the resource?

- Dive operators
- Village fishermen

What are the defining characteristics of the target customer(s) or user(s) of the resource (e.g. nationality, wealth, culture, etc.)?

Dive operators: There are two types of dive operators – Live-aboard boats and resort dive operators. The live-aboard divers are experienced divers. They are typically retired or older clients with a comfortable income. A small percentage of the divers are in their 20 and 30s. Most are American and European, with 60% return visitation. Most of these divers have more than a 1000 dives (Alexx Edwards, Nai'a Fiji, pers. comm., 2 May 2016). The resort divers who would be visiting the Vatu-i-Ra sites are also experienced divers, but less so than those on live-aboard boats. These divers typically have more than 100 dives but less than 1000 dives (Helen Sykes, Resort Support, pers. comm., 4 May 2016). Many of the resort divers to the Volivoli Beach Resort belong to dive clubs but still tend to have fewer dives than the live-aboard boats (Nick Darling, Volivoli Beach Resort, pers. comm., 16 May 2016). Casual divers are not expected to visit this reef area, given the currents that sometimes run through the area; rather they would visit the fringing reef sites.

There is both commercial and subsistence fishing in the Vatu-i-Ra Seascape. However, there appears to be little, if any, commercial fishing in the area of the proposed Conservation Park. The dive operators report that they don't see many fishermen in the area of the proposed conservation park (Alexx Edwards, Nai'a Fiji, pers. comm., 2 May 2016; Nick Darling, Volivoli Beach Resort, pers. comm., 16 May 2016).

There is a catch and release game fishing operation out of the Volivoli Beach Resort. These fishermen are very wealthy and committed to conservation. They spend thousands of dollars to bring their fishing equipment with them (Nick Darling, Volivoli Beach Resort, pers. comm., 16 May 2016).

What is the trend, if any, in resource use or use of environmental goods and services?

- Visitor numbers:

International visitor arrivals to Fiji are about 60% higher than in 1999 and there has been steady increase in visitor numbers since 2003 (Fiji Bureau of Statistics 2016). Between 1999 and 2003 approximately 12% of international visitors went scuba diving, 8% went fishing (not big game) and 2% went big game fishing (Ministry of Tourism, Culture, Heritage and Civil Aviation 2003). Even if the proportion of visitors that undertook these activities remained the same over time, the higher visitor arrivals would mean the number of visitors undertaking these activities is likely to increase with time. What is unknown, however, is what proportion of visitors are visiting the Ra province.

- Diving:

Live-aboard boats – The number of divers is restricted to the number of possible dive charters per year. In the last 20 years Nai’a Fiji has experienced a non-monotonic upward trend in passenger bookings (Alexx Edwards, Nai’a Fiji, pers. comm., 2 May 2016). There are currently 3 live-aboard boats operating in Fiji and it is unlikely that Fiji could support more than 3 live-aboard boats (Helen Sykes, Resort Support, pers. comm., 4 May 2016). Therefore, the number of divers visiting the dive sites will likely be constrained to the number of berths on these boats (*Nai’a* – 18 berths, *Siren* – 16 berths, and *Aggressor*¹⁰ – 12 berths). The *Siren*, which operates out of the Volivoli Beach Resort, does about 40 charters per year (Nick Darling, Volivoli Beach Resort, pers. comm., 16 May 2016).

Resorts – Both the Volivoli and Wanavanu resorts, being land based, could increase their dive visitation. This depends on the number of guests who are divers and who are prepared to pay the additional cost¹¹ of getting out to the Vatu-i-Ra dive sites. An estimated 20% increase in resort divers could be expected if a new resort opened in the area (Helen Sykes, Resort Support, pers. comm., 4 May 2016). Approximately 95% of the divers visiting the Volivoli Beach Resort will go to sites in the proposed Vatu-i-Ra Conservation Park and the number of divers has increased 15% year on year for the last 4 years (Nick Darling, Volivoli Beach Resort, pers. comm., 16 May 2016).

Fishing:

Subsistence fishing – A portion of the area has been a *tabu* area for many years so there has little change in the fishing use of that area over time. Given the distance from the coast there is some subsistence fishing in the non-*tabu* area but it is limited by the availability of suitable boats and weather (Sangeeta Mangubhai, WCS, pers. comm., 26

¹⁰ The *Aggressor* is also known as the *Dancer*.

¹¹ This higher cost comes from the need to use a bigger boat and extra fuel costs to travel the longer distance.

April 2016). While there is unlikely to be a large subsistence fish catch currently, it could increase in the future.

Game fishing – The potential for game fishing in the area has not been explore or exploited but could be a potential use in the area in the future. Approximately 40 fishermen per year visit the area from the Volivoli Beach Resort. This number has remained steady over time (Nick Darling, Volivoli Beach Resort, pers. comm., 16 May 2016).

What is the expectation of the target customer(s) or user(s) for the health of the resource?

- Diving:

Live-aboard boats – These divers are serious and experienced divers who expect to see the best reefs Fiji has to offer. While they expect excellent dive sites they are also educated divers who understand that the quality of the reef may vary due to natural events. There are a number of dives per trip so the expectation is that they would have a number of very good dive sites to visit during a charter (Alexx Edwards, Nai’a, pers. comm., 2 May 2016).

Resort dives – These divers are less experienced divers and while they still have high expectations of the condition of the dive sites these expectations may be lower than the live-aboard boat divers (Helen Sykes, Resort Support, pers. comm., 4 May 2016). However, social media, websites and other media forms does mean that all divers are expecting to see spectacular coral (Nick Darling, Volivoli Beach Resort, pers. comm., 16 May 2016).

- Fishing:

The presence of the *tabu* area within the proposed Conservation Park and the distance from shore mean there are few fishermen to the area.

What is the potential demand for the environmental good or service? What may affect this?

- Diving:

Fiji is known as having some of the best soft corals in the world and there are many superb dive sites in the proposed Conservation Park. There appears to have been an increase in demand for visiting these dive sites (by live-aboard boat divers and also resort divers) and this can be expected to continue increasing over time. The demand for these sites is most likely to be most affected by future coral bleaching or cyclone damage and capacity constraints on live-aboard boats. There is potential to increase the number of resort divers.

- Fishing:

As subsistence and commercial fishing are important for food security and income, there will always be a demand for fish. The demand for fishing may be affected by (1) presence of *tabu* areas (as they are no-take areas this will reduce the demand of fish in those areas) and (2) any degradation of the fish stocks and increase in catch per unit effort (this can mean village fishermen will move to more fish-abundant areas). Any variability in village income streams or food sources may result in an increase in the demand for fish in this area. Cyclone Winston, for instance, may result in the removal of the *tabu* area and an increase in fishing in the area.

7. RISKS AND OPPORTUNITIES

Outlined below is an assessment of the risks and opportunities that currently exist in the proposed area for the Vatu-i-Ra Conservation Park. This information will be used to support the assessment of the different instruments that were considered as potential sustainable financing mechanisms. An ecosystem services scoping framework, developed for business (WRI 2012), was adapted for this context. Five types of risks and opportunities are outlined – operational, regulatory/legal, reputational, market, and financial. A series of key questions are used to describe the context for each category of risk and opportunity.

7.1 Operational risks and opportunities

What may affect the availability or cost of key inputs needed for the voluntary support contributions and other instruments?

All instruments depend on the revenue and income streams from a healthy functioning coral reef ecosystem. Depending on which instrument is being considered, either fishermen or dive tourists will be the users from which a payment is to be extracted.

There are currently four dive operators that use the area proposed for conservation. Three¹² operators are prepared to engage in discussions about the proposed voluntary contribution scheme and other instruments. They are committed to community development and resource conservation. It is this commitment that makes any instrument relating to the dive industry viable.

Transparency of the administration of the instrument and disbursement of funds is of key importance to the acceptance of any instrument by the dive operators (Helen Sykes, Resort Support, pers. comm., 4 May 2016).

While the reefs in the Vatu-i-Ra Conservation Park are spectacular they are a distance from the coast. This means dive operators have higher fuel costs and need bigger boats to visit the area. Therefore, dive operators only visit the reef when the weather is good and there are divers prepared to pay the extra cost to go to the reef.

There are also alternative reefs suitable for dive operators outside the Vatu-i-Ra Conservation Park and still within the Vatu-i-Ra Seascape that dive operators can visit. For some divers this means there are suitable substitute dive sites available.

What may affect the output or productivity of the voluntary support contributions and other instruments? In other words, what would affect the productivity of the fishery or the ability to bring dive tourists into the area?

Ecological integrity: All proposed instruments rely on a healthy reef. Key factors that may affect the condition of the reef are:

- Overfishing on the reef or poaching
- Coral bleaching events
- Cyclone damage (See Box 2 for a synopsis of the effects of Cyclone Winston, a category 5 cyclone)
- Crown-of-Thorns outbreak

¹² The fourth diver operator is free riding. Efforts could be made to engage with this operator once any instrument is established and if that instrument is relevant to the dive industry.

- Ship grounding – this is an area of high boat/ship traffic
- Lack of community support (which may lead to continued fishing in the area)

Coral bleaching, cyclone damage and Crown-of-Thorns outbreaks are not affected by these instruments but pose a threat to the success of any instrument that relies on a healthy well- functioning reef ecosystem.

Governance: The transparency (or lack thereof) could be an opportunity (or risk) for any instrument. WCS has remarked that if a transparent system was established there might be opportunities to contribute an initial, additional, upfront goodwill donation to kick-start the fund and get stronger community buy in, especially given the impact on communities from cyclone Winston and the challenges they are facing to rebuild their communities. This was in relation to the proposed contribution to the conservation scheme (Sangeeta Mangubhai, WCS, pers. comm., 26 April 2016).

What may disrupt the operation of the instrument?

Depending on the instrument, any disruption to tourist numbers or fisherman will affect the effectiveness of the instrument. This may include events like cyclones or potential disease risks (e.g. Zika virus) that interrupt the flow of tourists. Similar events can also reduce fishermen numbers.

For instance, there was severe damage to the Namena Reef and also the resort on Namena Island from Cyclone Winston. As a consequence, the dive operators are considering whether they will continue to operate in the area. It is also highly likely that the resort near the reef may not reopen due to the extensive damage from the cyclone. Should this eventuate, the community will lose two income sources – resort income, employment and diver fees (Sangeeta Mangubhai, WCS, pers. comm., 26 April 2016).

To counter any potential negative impact on income streams from reduced tourist numbers, an endowment or reserve could be built up within the fund. This endowment or reserve would be used to smooth income streams while also earning interest that could also be utilised.

What new technology/processes could improve the efficiency of resource use or reduce impacts on a resource?

Divers have little impact on the reef as most visitors are experienced divers and the places where most people dive are steep walls; it is not therefore possible to stand on the coral, which is what causes damage.

There are some early discussions on possibly using Fish Attracting Devices (FADs) in cyclone-affected communities but it is currently uncertain where and how the government will allocate the FADs to different areas in the region (Sangeeta Mangubhai, WCS, pers. comm., 26 April 2016).

8. REGULATORY AND LEGAL RISKS AND OPPORTUNITIES

For several potential instruments, the regulatory and legal risks and opportunities largely apply to the Surfing Decree. As noted earlier, the decree ‘enables unrestricted access to any surfing area by all persons, including tourists, hotels and businesses engaged in providing and promoting surfing or any other water sport’ (Fiji Government

2010). Hence, it is difficult for communities to lease, license or use other instruments in relation to preventing access to surfing areas (given the clause 'or any other water sport'). The Surfing Decree also overrides other legislation.

Another relevant piece of legislation is the State Lands Act, which states that the foreshore and soil under the water of Fiji belongs to the state. Under this Act, leases can be used to exclude public access from an area (e.g. resorts operating on the foreshore), while a licence can be used to undertake an activity but cannot be used to exclude public access (e.g. mining activities). The Lands Department has granted two licences to date, but the legality and applicability of these licences in the context they are being used is unclear (Patricia Davidson, FELA, pers. comm., 2 May 2016).

The first licence was issued to a resort to prevent yachts from anchoring on and damaging a nearby reef and to reduce direct access to and litter on the beach. The second licence was issued to a community for species protection and for income generation from tourism. While these licences are being used to exclude others from an area, it is unclear whether they are legally binding. Foreshore or 'wet' leases could possibly be used to protect the marine area within the Conservation Park. However, further legal opinion on its use in this context needed. The Lands Department, however, has stopped issuing licences (Patricia Davidson, FELA, pers. comm., 2 May 2016).

The Fisheries Act regulates the near shore fisheries in Fiji and recognises the customary right of *iTaukei*¹³ to fish in *qoliqoli* areas. A fishing permit is not required for subsistence fishing by a community member in that community's own *qoliqoli*. However, a permit is required to fish in *qoliqoli* that belong to other communities (Sloan & Chand 2015). Commercial fishing in the near-shore areas requires a fishing license. Section 9 of the Fisheries Act provides the Minister of Fisheries with the authority to make regulations relating to the conservation, protection, and maintenance of fish stocks and the prohibition of the taking of fish in specific areas or during specific times. Areas can be declared 'restricted areas' to prohibit fish capture (note this is different from the powers under the marine protected area legislation), and this designation could be used to legalise a community or customary *tabu* area to legally enforce a no-take rule. However, gazetting an area as 'restricted' is a slow process (Patricia Davidson, FELA, pers. comm., 2 May 2016).

8.1 Reputational risks and opportunities

Once the Conservation Park is established, visitors will have the privilege of visiting an area specifically designated as a Conservation Park. Dive operators believe this could be attractive to potential divers to the area (Helen Sykes, Resort Support, pers. comm., 4 May 2016). One of the diver operators also runs a catch and release fishing service. The Conservation Park may also make fishing tourism to the area more attractive based on the potential increase in fish density related to higher fish recruitment from within the Park area.

There are also some risks associated with any loss of reef quality that could result in some dive operators choosing to go elsewhere, this could especially apply to the live-aboard dive boats whose clients expect excellent reefs.

¹³ *i Taukei* are indigenous Fijians.

In terms of fishing, most catch is subsistence and no branding is required for where the fish catch comes from. No unique branding is expected for fishing unless a game fishing industry emerges.

8.2 Market and product risks and opportunities

The Vatu-i-Ra reefs are already renowned as having some of the best coral, particularly soft corals, in Fiji. There could be potential to capitalise on this reputation to attach a conservation park status (even though not legally binding) to this area. Such capitalisation is likely to come from resort dive operators who could more easily increase their dive visits should more guests come.

8.3 Financing risks and opportunities

The design of the instrument is important and this could provide some financing risk. For instance, initial discussions with local communities identified two villages that would benefit financially from the contribution system. This means other villages with access rights to the area are not receiving any of the funds. This may cause some issues at a later date as all villages will be giving up their rights to fishing in the Park area. WCS will be therefore be facilitating further discussions with all 28 communities to ensure there is equitable distribution of the benefits from any voluntary contribution to conservation scheme. For example, an education fund has been proposed to try to reduce this inequity. Other options would be to enable all communities to apply for loans from the fund, to support the diversification of low-impact livelihoods.

The proposed contribution system will not provide a large income stream as dive operators indicate that diver willingness to pay to visit is likely quite small. This may not be sufficient incentive to stop all village fishermen from fishing in the area. However, tourists and other NGOs might make larger contributions if they knew the money was well governed and being put to good use.

Governance and administration of the contribution also poses some risks should there be a lack of transparency in how the funds are used. Dive operators will be reticent to support a system that is not transparent. There is also a reticence to support a system where any of the contribution is given to the government (e.g. Ra Provincial office or central government). This is primarily because all tourism operators already pay a 6% environment levy and are unwilling to contribute further to government funds. Their aim is to support community development and well-being (Helen Sykes, Resort Support, pers. comm., 4 May 2016).

8.4 Comparison of alternatives

Outlined below is a comparison of the different economic instruments considered to protect the health of the marine ecosystem in the proposed Conservation Park.

Instrument	Legal standing	Ecological integrity	Regular income stream	Community support	Administrative burden	Scope
Do nothing	Yes	No guarantee the <i>tabu</i> will not be lifted opening the area to greater fishing pressure.	No		None	Not applicable
Dive user fee	Under the Surfing Decree the use of a compulsory dive user fee is deemed illegal.	Not affected	Yes	Likely to have community support as it provides an income stream.	The burden will depend on the design of the instrument.	Yes
Foreshore lease	It is currently unclear whether this instrument could be used to protect the marine area within the Park. Further legal advice is needed. FELA is investigating this option.	The health of the marine environment will depend on whether there is future fishing pressure in the area.	Yes, if they can charge for access to the area	Likely to have community support if it provides an income stream.	The burden will depend on the design of the instrument.	Yes
Recreational dive lease/license	Under the Surfing Decree a lease or license arrangement to restrict access to the reefs for diving is deemed illegal.	Not affected	Yes	Likely to have community support as it provides an income stream.	The burden will depend on the design of the instrument.	Depends, as the lease or licence may be awarded to one operator who would exclude others or may be given to multiple operators.
Voluntary contribution support system	As the system is voluntary it can operate without contradicting or being in breach of the Surfing Decree.	The health of the marine environment will depend on community compliance with the management plan.	Yes	Yes, it provides an income stream to the community.	The burden will depend on the design of the instrument.	Yes

Besides not establishing any mechanism there is only one instrument that is known to be legally possible at this time: the voluntary contribution to the conservation scheme, which has already proved to be successful based on the Namena Marine Reserve experience.

The foreshore lease may also be a possible instrument to use. This would complement the voluntary scheme to provide the Marine Park with a stronger legal status that is enforceable under Fijian law. However, further legal advice is needed to determine if and how a foreshore lease could be used, and how this affects the access rights of local communities in the short and long term. This option is unlikely to get community buy in on its own.

Both the dive user fee and the recreational leases/licences cannot be used as they violate the Surfing Decree.

In summary, the voluntary contribution support system is the most feasible instrument to pursue in the context of the proposed Conservation Park.

9. SUMMARY

In the context of the Ra Province ICM Plan (Ra Province 2016), which highlights the most pressing environmental issues facing the province, there are a few immediate options for establishing financial or economic instruments and some potential options available in the longer term.

The most promising mechanism is the voluntary contribution scheme for the proposed Vatu-i-Ra Conservation Park. This is because of the level of interest in such a system within the communities and the seeming willingness of most dive operations to be part of this scheme. There are still a number of issues to work through before the scheme is successfully implemented and these have been highlighted in the in-depth feasibility assessment for this scheme.

It is unlikely, however, that additional systems like this would be viable for other environmental resources in the province. This is because there does not appear to be other unique and charismatic areas/species where visitors may be prepared to pay to visit/use as well as the relative expensiveness of visiting Fiji with its increase in revenue-based taxes. The surfing decree has further limited the use of user fees in the coastal area.

In the longer term, alternative livelihoods such as organic farming, new enterprises or a return to traditional crops could provide more sustainable income sources. This will require not only the scoping and exploration of new enterprises for the Province (in terms of what type of crops/livestock would perform well in that area and the potential market) but also significant investment in training or upskilling in these enterprises. In terms of organic farming this would require buy-in from FSC and the cane growers alongside training in organic farming techniques and certification processes.

If the Black Sand Mining venture goes ahead then biodiversity offsets could be a useful mechanism to obtain compensation for the environmental losses associated with the mining as well as permanently protect (providing there are legal mechanisms to allow this) a similar area. While this does not avoid the loss of some natural resources, biodiversity offsets can help to protect other resources and potentially provide an income stream. The governance structure around the offset is critical as the offset area should be protected in perpetuity and the funds managed in a transparent fashion for the benefit of the community and continued conservation of the area. Financial assurance instruments can be used to support governance and the achievement of environmental objectives.

The use of subsidies to incentivise changes in land management practices is not likely to eventuate unless sustainable land management becomes part of the national environmental agenda and there are funds available for subsidies that support a transition towards sustainable land use. The revenue raised from the recently instated Environmental Levy could potentially be a source of funds but it is

not yet clear how or where these funds will be used or even if they will be directed toward environmental issues.

The establishment of Trust Funds is similar to subsidies in that it requires an initial injection of funds. The Sovi Basin Trust Fund could potentially be extended to the Ra Province, but it would require additional funding. There are some opportunities for funding, e.g. GEF funds, that could potentially be accessed for this purpose and are being explored. The establishment of new Trusts would require not only initial endowment funds but also time to adequately engage and establish transparent and robust governance structures.

Moving forward, there are a number of potential actions for the RESCCUE consortium. These include:

- Continued support for the implementation of the Vatu-i-Ra Contribution Scheme and complementary mechanisms with attention paid to some of the outstanding issues/concerns for the successful implementation of the scheme.
- Investigate other income generating farming options (e.g. organic or alternative enterprises) in the Province, alongside complementary certification, to provide new/additional income streams but also reduce their impact on the environment.
- Actively investigate other funding sources to initially establish or expand Trusts to conserve the environment in the Province. The most straight-forward would be to expand existing Trusts and any newly established trusts should take lessons from existing models on the most effective approach for establishing trusts in Fiji.
- Keep a watching brief on the Black Sand Mining Venture. In those communities likely to be affected by any mining, engagement with the local community should be around the establishment of a marine park but also the use of biodiversity offsets should mining go ahead.
- Engage in any debates on the use of the newly established Environmental Levy. If the government's intent to ensure the right to a clean environment for all Fijians then it would be expected that the funds should be used for conservation purposes. However, it is currently not clear if the levy revenue will be used for that purpose. Proactive engagement is warranted with government on the use of the levy revenue for disbursements to activities that restore the environment within Fiji's territorial land and waters, including as a source of funds to support the establishment of economic/financial mechanisms for environmental conservation.

10. RA FINANCIAL AND ECONOMIC MECHANISMS ACTION PLAN

Potential actions listed in the Financial and Economic Mechanisms report. for Ra Province.

Action 1:

Continued support for the implementation of the Vatu-i-Ra Contribution Scheme and complementary mechanisms with attention paid to some of the outstanding issues/concerns for the successful implementation of the scheme.

Action 2:

Investigate other income generating farming options (e.g. organic or alternative enterprises) in the Province, alongside complementary certification, to provide new/additional income streams but also reduce their impact on the environment.

Action 3:

Actively investigate other funding sources to initially establish or expand Trusts to conserve the environment in the Province. The most straight-forward would be to expand existing Trusts and any newly established trusts should take lessons from existing models on the most effective approach for establishing trusts in Fiji.

Action 4:

Keep a watching brief on the Black Sand Mining Venture. In those communities likely to be affected by any mining, engagement with the local community should be around the establishment of a marine park but also the use of biodiversity offsets should mining go ahead.

Action 5:

Engage in any debates on the use of the newly established Environmental Levy. If the government's intent to ensure the right to a clean environment for all Fijians then it would be expected that the funds should be used for conservation purposes. However, it is currently not clear if the levy revenue will be used for that purpose. Proactive engagement is warranted with government on the use of the levy revenue for disbursements to activities that restore the environment within Fiji's territorial land and waters, including as a source of funds to support the establishment of economic/financial mechanisms for environmental conservation.

The proposed plan of follow-up actions include:

Action	Plan	Parties responsible
1: Vatu-i-Ra voluntary contribution	<p>There are 3 key areas to progress:</p> <p>Governance – establish governance oversight mechanism (by December 2016)</p> <p>Operations – establish operational protocols (by June 2017)</p>	Wildlife Conservation Society

Action	Plan	Parties responsible
	Monitoring & evaluation – establish monitoring and evaluation framework (by December 2016)	
2: Alternative agricultural income streams	<p><i>Greening productions systems</i></p> <p>Initiate discussions with the Fiji Sugar Company (FSC) to explore and financially support farmers to proactively manage riparian zones on cane land. This is to reduce downstream environmental degradation and climate-induced risks (e.g. flooding). (by December 2016)</p> <p>Assess the organic product demand of a select group of agricultural products (part of the economic assessment and in conjunction with Kadavu assessments). (by July 2017)</p> <p><i>Diversified income streams</i></p> <p>Engagement – Engage communities in Saivou and Nalawa districts to identify the specific actions/needs of the community that will diversify income streams as well as protect land-based resources (including soils and biodiversity) and increase their resilience to climate change (by December 2016)</p> <p>Resourcing – Raise sufficient funds from external funding sources to undertake the actions desired and requested by communities. This is to provide the inputs (e.g. plant stock) to implement the actions. (ongoing)</p> <p>Governance – Set up the governance system, e.g. community conservation agreements to specify the conditions for which the inputs will be supplied, how the actions will be aligned with the environmental management plan and an agreed monitoring plan. (ongoing and depends on external funding)</p> <p>Implement – Provide inputs (e.g. new species) as agreed in the governance agreement and monitor the implementation (e.g. planting) by the community (as soon as governance agreements are in place and funds are available).</p>	<p>University of South Pacific</p> <p>Landcare Research</p> <p>Conservation International</p> <p>Landcare Research</p>
3: Trust expansion	<p>Trust mechanism – Revise Sovi Basin Trust Deed and governance structures to transparently allow other areas to be included in the trust mechanism and ensure traceability of dividends to the respective communities (by August 2017)</p> <p>Engagement – Engage with the communities to obtain consensus on the actions to protect the area (focus in the Nakauvadra Range) (by August 2017)</p> <p>Resourcing – Secure external funds to seed fund the new Trust areas (e.g. FAO Global Environment Facility PAS 4: Forest Conservation and Protected Area Management Project in Fiji or potentially RESCCUE trust fund allocation) (ongoing but as soon as possible to ensure the timely rollout out of the actions once the Trust deed has been revised and actions are agreed).</p>	Conservation International

Action	Plan	Parties responsible
4: Black Sand Mining	<p>Monitor the progress with the granting (or not) of prospecting licences for black sand mining in Ra Province (6-monthly).</p> <p>Should a licence be granted within the RESCCUE timeframe then steps will be taken to determine the practicality of using an offset mechanism. This includes promoting within Ministry of Lands and Mineral Resources the use of a biodiversity offset mechanism for mining projects.</p> <p>This action will only be progressed further if a prospecting licence is granted. Until then any intent is speculative.</p>	University of South Pacific
5: Environmental Levy	<p>Seek advice from the Fiji RESCCUE Steering Committee as to the best avenue(s) to pursue to ensure that funds from the Environmental Levy are used to protect and enhance Fiji's environment. Ideally this would be through an existing organisation such as Fiji Commerce and Employers Federation (FCEF) instead of individual industry players or individuals. (at September 2016 Steering committee meeting)</p> <p>Work with other environmental NGOs through the Protected Area Committee to prompt questions on how this levy is being used to protect Fiji's environment. (ongoing)</p>	University of South Pacific Conservation International Wildlife Conservation Society

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