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## ECOSYSTEM SERVICES OF ECOTOURISM IN AGRICULTURAL ZONES

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The tourism industry has become one of the fastest growing global industries and contributes approximately 5 percent to global gross domestic product (GDP) and more than 10 percent to GDP in developing regions (UNWTO, 2015). Increasing tourism pressure around the world, if not managed sustainably, poses socio-economic and environmental challenges, including possible negative consequences for biodiversity and ecosystem services (Box 16).

Ecotourism is a form of tourism that involves responsible travel to natural areas and helps conserve the environment; sustain the well-being of local communities socially, culturally and economically; and create knowledge and understanding through education (in staff, visitors and community members). In short, ecotourism is non-consumptive or non-extractive (i.e. it excludes hunting), creates an ecological conscience and promotes ecocentric values and ethics in relation to nature and its sustainable use.

The nature-based tourism sector (e.g. wildlife viewing, outdoor recreation such as hiking, agritourism), which is dependent on natural settings and environments, is a key ecotourism sector experiencing significant growth (Kuenzi and McNeely, 2008; Balmford *et al.*, 2009). It is widely recognized that these types of tourism are an important ecosystem service (MA, 2005) and are able to generate significant financial resources for local economic development and conservation management.



### Box 16. Challenges of unsustainable tourism for biodiversity and ecosystem services

While ecotourism can promote biodiversity conservation, conversely, unsustainable tourism can have negative environmental, economic and social impacts through overuse and mismanagement. Tourism threatens 15 percent of all IUCN Red List species in the subregion; its impacts are more apparent in countries with relatively large tourism industries (Morrison, 2012). Only one current Pacific NBSAP (Palau) recognizes tourism as a threat to biodiversity. Thus most governments, tourism agencies, conservation agencies and other stakeholders in the region will be unprepared to manage its impacts in the short to medium term. The following are the main mechanisms for minimizing, avoiding and/or managing these impacts:

- » **Development of sustainable tourism practices for each country, including environmental, socio-cultural and economic factors.** Such practices are already implemented at a local scale in a number of conservation areas (Morrison and Buckley, 2010). The challenge is to develop national-scale plans. To achieve this, conservation agencies and NGOs in the region will have to recognize the potential threat posed by tourism and work in conjunction with tourism agencies, local communities, regional development agencies and national governments.
- » **Education and awareness on the potential negative impacts of tourism and the benefits of sustainable tourism.** Successful and sustainable nature-based tourism ventures generally involve extensive local community awareness and education, but most tourism agencies in the subregion fail to acknowledge the importance of maintaining the natural base on which the industry is dependent (Morrison and Buckley, 2010).

## Ecosystem services of ecotourism

Many ecosystems are publicly manifest as important social or cultural places where people can come for rest, relaxation, refreshment, recreation and exercise (Simmons, 2013). While nature-based tourism directly draws on the environment and ecosystem services, this form of tourism can also directly provide or enable the provision of ecosystem services for other users. The most obvious and direct benefits of ecotourism for the conservation of biodiversity and ecosystem services are the protection of species, habitats and ecosystems for conservation purposes and sustainable livelihoods; and the generation of financial resources that can be used for conservation and/or local community economic development.

Ecotourism has a direct or indirect role in all four main ecosystem service categories (Table 10).

Table 10. **Ecosystem services of ecotourism**

ECOSYSTEM SERVICE TYPE	ROLE OF ECOTOURISM
<b>Regulating</b>	<ul style="list-style-type: none"> <li>&gt; Reducing land clearing</li> <li>&gt; Promoting habitat regeneration</li> <li>&gt; Reducing soil erosion</li> <li>&gt; Decreasing water sedimentation</li> </ul>
<b>Supporting</b>	<ul style="list-style-type: none"> <li>&gt; Providing species habitat</li> <li>&gt; Protecting biodiversity</li> <li>&gt; Protecting natural ecosystem processes, e.g. carbon sequestration</li> </ul>
<b>Provisioning</b>	<ul style="list-style-type: none"> <li>&gt; Subsistence harvesting</li> <li>&gt; Resources for cultural activities (e.g. traditional medicine, handicrafts)</li> </ul>
<b>Cultural</b>	<ul style="list-style-type: none"> <li>&gt; Protection of cultural areas (e.g. old village sites)</li> <li>&gt; Protection of cultural practices and traditional knowledge (e.g. traditional medicine collection, handicraft making, traditional harvesting practices)</li> <li>&gt; Protection of heirloom seed varieties and endemic crops</li> <li>&gt; Recreation</li> <li>&gt; Education</li> </ul>

### Regulating services

Terrestrial nature-based tourism relies heavily on intact ecosystems and habitat for a range of activities including hiking, birdwatching, camping, rock-climbing and photo safaris (Gossling, 1999; Buckley, 2003). The presence of businesses or organizations offering activities of these types encourages a range of environmental protection strategies to enhance visitor satisfaction and conserve the natural base of the operations. These protective strategies can include bans on habitat clearing for other purposes (e.g. agriculture, logging), rehabilitation of land previously used for or degraded by other purposes, and restrictions on species harvesting (Eagles, McCool and Haynes, 2002; Morrison *et al.*, 2012). These actions can lead to the continued existence and integrity of natural ecosystems and their associated ecosystem services.

The maintenance of natural vegetation for ecotourism purposes (e.g. aesthetic value or provision of species habitat) helps regulate watershed flows under normal conditions, for example through maintenance of natural drainage and buffering of excessive waterway discharges in extreme conditions, such as floods or storms. The maintenance of natural vegetation also provides habitat for species at various trophic levels and with a range of trophic roles. Pollination is essential for most plants for reproduction, including crop species, and this function is provided by many wild species, including insects, birds and bats, that are dependent on natural vegetation for habitat. Increasing natural vegetation for ecotourism purposes can provide additional habitat for populations of pollinators and pest predators which can lead to increased agricultural production in nearby areas (Klein, Steffan-Dewenter and Tschamntke, 2003).



## Supporting services

The relationship between biodiversity and supporting ecosystem services depends on the composition, relative abundance, functional diversity and taxonomic diversity present (MA, 2005). Nature-based tourism can contribute to community composition, species abundance and diversity through a range of conservation strategies. In addition to habitat restoration and rehabilitation, mentioned above, nature-based tourism can also promote species and community diversity directly through funding for introduction of key species, anti-poaching or land-clearing patrols, habitat protection and removal of invasive species, and indirectly through supplementary feeding (including introduction of prey species), community education and local community conservation-incentive and compensation programmes (Morrison *et al.*, 2012; Buckley, Morrison and Castley, 2016).

## Provisioning services

While cultivated lands provide many provisioning services (such as grains, fruits and meat), habitat conversion to agriculture typically leads to reduction in local native biodiversity (MA, 2005). In the Pacific Islands and many other developing regions, a substantial part of the local diet still comes from wild plants and animals, and loss of this diversity can have significant impacts on human health and well-being. The protection of habitats and ecosystems for ecotourism purposes indirectly leads to the protection of species important to local communities for food, medicinal and ornamental purposes (Pegas, Grignon and Morrison, 2015). Sustainable ecotourism or nature-based tourism often permits small-scale subsistence harvesting in areas of tourism significance as long as the harvesting does not have significant impacts on the natural base of the tourism activity or visitor satisfaction (Pegas, Grignon and Morrison, 2015). In many community-based conservation areas, one of the conditions for local landowning communities' permission and participation in the tourism enterprise is that they can continue their limited subsistence harvesting of species that are not targets of the tourism – whether directly within areas protected for ecotourism, e.g. community ecotourism conservation areas, or in surrounding “buffer” areas which may be more accessible for local communities and where species diversity and abundance is often relatively high (akin to spillover effects in Marine Protected Areas) (Palomo *et al.*, 2013).

## Cultural services

Many culturally important species and places are also important for nature-based tourism (Pegas, Grignon and Morrison, 2015). Conservation strategies funded by tourism to protect species, habitats or ecosystems can also have direct and indirect positive impacts on cultural services, for example through the protection of culturally important areas (e.g. old village sites, sacred groves), traditional practices and knowledge (e.g. handicraft making skills, traditional harvesting, agricultural practices) and education, both traditional and scientific. Natural

ecosystems are also important for recreation, fostering and/or reinforcing humans' attachment to nature, artistic inspiration and spiritual connections (de Groot, Wilson and Boumans, 2002; Tengberg *et al.*, 2012). Nature-based tourism not only plays a role in protecting ecosystems for these purposes, but in many cases provides the services directly.

## Ecotourism in relation to agriculture and conservation of ecosystem services

Tourism and agriculture can be linked in three main ways in relation to biodiversity and ecosystem services:

- » agriculture as a tourism attraction, i.e. agritourism;
- » agriculture as part of the tourism value supply chain;
- » tourism as an alternative land-use to intensive or non-sustainable agriculture.

Agritourism is a form of tourism that involves tourist activities at a working farm, ranch or agricultural plant which generate supplemental income for the owner. Agritourism involves a wide range of activities including educational experiences (e.g. farm tours, wine tasting, exposure to traditional farming practices), hospitality services (e.g. farm stays, guided nursery tours), on-farm direct sales (e.g. roadside stands, farmers' markets) and outdoor recreation (e.g. horseback riding, fishing) (Sznajder, Przezbórska and Scrimgeour, 2009). Tourism mainly adds value to agricultural production (when agriculture is the main land use), and occasionally agriculture can add value to tourism (by providing additional attractions or activities in an area). Agritourism is popular in Europe (mainly France, Italy and Spain) and North America (Canada and the United States of America) and is becoming increasingly popular in Asia (e.g. the Philippines), Australia and South America (e.g. Brazil).

The promotion of linkages between tourism and agriculture helps create economic opportunities, build resilience in rural communities and enhance sustainable development in both the tourism and agriculture sectors (FAO, 2014b). More local produce on plates and more local agrifood products on offer for visitors, tourists and the hotel industry mean higher income and more employment opportunities for farmers, suppliers and the private sector and greater overall interest in the agricultural sector. Many ecoresorts offer menus based on sustainable and/or organically harvested produce, in keeping with their policies on "green" tourism. Demand for organic produce in the tourism sector can therefore encourage environmentally friendly agricultural practices and justify the higher production costs involved.

## Tourism in the Pacific Islands

Tourism is of increasing importance in the Pacific Islands subregion, accounting for more than 60 percent of GDP in some countries (Morrison and Buckley, 2010). Tourism in Pacific Island countries grew about 3.5 percent per year between 2008 and 2012, and the total value of Pacific tourism is forecast to reach US\$4 billion by 2019 (UNWTO, 2015). Historically, most tourism in the region was in heavily developed coastal areas – "sun and surf tourism" based on beaches,



diving, fishing, sailing and local cultures (Morrison and Buckley, 2010). Alternative activities focusing on inland areas, such as birdwatching, hiking, old village site tours, traditional medicine walks and white-water rafting, are increasingly being promoted and form the basis of a small but popular ecotourism industry. It is difficult to determine what proportion of visitors to each country participates in ecotourism activities. However, research elsewhere has shown that a large portion of visitors to developing countries engages in ecotourism (MA, 2005).

Agriculture currently has a limited role in ecotourism and ecosystem conservation in PICTs, but as the following cases demonstrate, there is great potential for increasing this role and creating demand for the products of sustainable agriculture as a niche market opportunity (agritourism) or as part of existing tourism value and supply chains.

## Agritourism

Agritourism occurs on a small scale in some countries, e.g. Fiji and Samoa, promoted or marketed by a few operators but not yet recognized for its value-adding capacity by tourism marketing bodies, relevant government departments or the agriculture and tourism industries.

**Example of agritourism: Aviva Farms, Fiji.** Aviva Farms is a 22-ha former sugar-cane plantation now generating income through agritourism. When changes in weather patterns started to result in irregular revenue from sugar cane, the owner and director, Liva'i Tora, diversified the farm for additional income. He planted 20 indigenous species, 4 000 organic papaya trees (Photo 15) and a tobacco field, and added horseback riding to provide an additional sustainable income stream. More than 60 young men and women from rural and remote communities work and learn on this farm (Aviva Farms, 2016).

The farm's tourist activities primarily centre on promoting sustainable agriculture and its benefits for local communities, traditional knowledge and practices, healthy lifestyles and carbon-neutral activities. Touring the different parts of the farm, visitors observe the benefits of diversification and learn about:

- » the certification of organic papaya and its relation to sustainable farming practices;
- » how tobacco, a lucrative short-term crop grown four months in the year, cushioned the economic shock of the transition away from sugar-cane farming;
- » the domestication of breadfruit, a traditional staple crop, and its benefits for food security, carbon sequestration, gluten-free diets and resilience.

Other activities include tours of the farm's ethnobotanical garden, which connects people and plants; cross-country tours on horseback, which minimize carbon footprints; and visits to neighbouring vegetable farms to observe their different production systems. The farm also hosts events such as weddings and other celebrations, for which it provides local produce.

The farm has approximately 40 to 50 visitors monthly, and the agritourism component of the farm is financially sustainable given the low overhead costs (L. Tora, personal communication). Visitor numbers are expected to rise, but marketing (through Facebook, word-of-mouth and a website) is currently kept low to avoid impacts associated with excessive visitor numbers.

Photo 15. *Organic papaya at Aviva Farms, Fiji*

Aviva Farms collaborates with many organizations (e.g. in certification, watershed management, landscaping with indigenous plants) and is also involved in local community training and development in areas such as alternative production systems (e.g. introduction of new varieties of fruit-trees to supplement current seasonal fruit supply); riverbed stabilization using local indigenous trees; and climate change mitigation strategies using traditional knowledge.

### Joining the tourism supply-chain

In some Pacific Island countries up to 80 percent of the food in the tourism industry is imported, partly because hotels, resorts, restaurants and airlines need reliable supplies of good-quality products that are unavailable through local suppliers and producers. Attempts have recently been made to link the tourism and agriculture value chains in the region, for example in Fiji, Samoa, Tonga and Vanuatu, mainly through the supply of fresh produce to resorts and airlines (FAO, 2012b, 2014b). Several initiatives have been established in PICTs to enable local producers to link into the existing value and supply chains (Box 17). In 2015, the first Pacific Community Agritourism Week brought together tourism agencies, chefs and producers (SPC, 2015).

#### Box 17. Farm to Table, Samoa

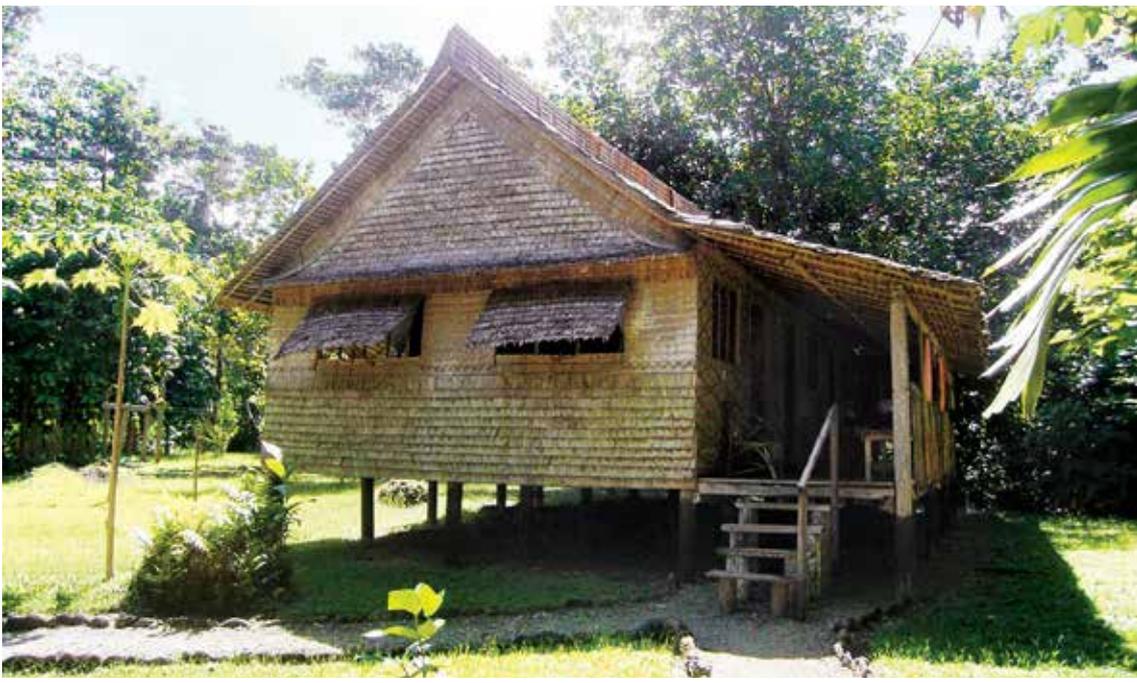
In Samoa, Women in Business Development Inc. (WIBDI), in partnership with UNDP, established the Farm to Table programme in 2013 to create a sustainable source of income for farmers and raise the profile and quality of Samoa's cuisine (WIBDI, 2016). WIBDI provides training, seeds and support to farmers and takes on the ordering, grading and delivery roles. Local restaurant and hotel chefs are trained and supported by a chef associated with the programme. More than 20 farmers (with farm size from 1 to 100 ha), all organic certified, supply two hotels and ten restaurants in Samoa with organic fresh produce (WIBDI, 2016).



**Joining the supply chain: Tetepare Island, Solomon Islands.** Tetepare Island is a 120 km<sup>2</sup> forested island in the Western Province of the Solomon Islands and is the largest uninhabited tropical island in the Southern Hemisphere. When Tetepare was threatened by logging in 2001, Tetepare islanders and their descendants established the Tetepare Descendants Association (TDA) to convert the entire island, including marine and terrestrial ecosystems, to a community conservation area. The entire island is protected from commercial use, e.g. logging, intensive agriculture and plantations, but low levels of subsistence resource use by local landowners are permitted in some areas. Today it is home to one of the Solomon Islands' leading and most successful conservation projects and a unique, locally owned and managed ecolodge (Photo 16). The ecolodge employs local people as guides, cooks and hospitality workers and is also a source of pride for the TDA communities. Local communities on neighbouring islands provide all the fresh organic produce for visitor and staff meals and handicrafts sold in the small ecolodge market. Visitor numbers are growing each year, providing more job opportunities for local people.

TDA has developed a sustainable livelihoods strategy and is working to create more livelihood opportunities through provision of training and equipment for alternative income generating activities, financial literacy programmes, marketing assistance for local agricultural producers and artisans, distribution of high-quality vegetable seeds to local market gardeners and promotion of sustainable, organic agriculture (Tetepare, 2016). By partnering with local and international NGOs, development organizations, researchers and government departments, TDA has successfully incorporated conservation, tourism and sustainable community development to protect Tetepare Island biodiversity and the ecosystem services provided.

Photo 16. *Tetepare Ecolodge, Solomon Islands*



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## Ecotourism as an alternative to agriculture

Although links between tourism and ecosystem services are rarely articulated in the region, income from tourism is often the only means and justification for protecting the environment through establishment of protected areas, legislation to protect threatened species and ecosystems and promotion of the sustainable use of natural resources (Buckley, 2004; Puppim de Olivera, 2008; Morrison and Buckley, 2010).

**Linking tourism to environmental protection: Talanoa Treks, Fiji.** Talanoa Treks was established in 2013 and is one of the only dedicated hiking tour companies in Fiji. It works in partnership with local communities to offer guided day and multi-day group walks through Viti Levu's rural areas (Photo 17). The company is committed to environmental and cultural sustainability and recognizes its dependence on Fiji's biodiversity and cultural heritage (Talanoa Treks, 2013). Its target markets are increasingly socially conscious travellers and adventure tourists.

The diversity of the natural landscapes (agricultural lands, cloud forest, talasiga grasslands, and freshwater rivers, streams and waterfalls) and the opportunity to visit remote areas are major drawing cards. Several tours explore medicinal plants, old village sites, food gardens, fishing grounds and battlefields. Village visits and stays allow tourists to experience local and traditional ways of life in Fiji.

Photo 17. *Hike through interior of Viti Levu organized by Talanoa Treks, Fiji*



© Matt Capper



Talanoa Treks works in partnership with four communities and two locally owned lodges. The company is responsible for overall trip management, logistics, marketing, quality monitoring (through visitor feedback) and training. The villages allow access to land; provide experienced guides, locally grown food, accommodation and other services; and maintain tracks and infrastructure. The revenue generated provides a valuable source of income for the remote communities. In 2014, the first full year of operation, the communities and lodges received more than 40 000 Fiji dollars (FJD) (more than US\$20 000) as payment for food, accommodation and guiding.

In terms of biodiversity conservation, Talanoa Treks is currently focused on community and visitor education through training programmes funded by the Darwin Initiative and local conservation NGO NatureFiji-MareqetiViti. Many visitors on the treks are conservation oriented and help increase awareness among local communities and guides, promoting cross-cultural exchange of ideas and knowledge. While the company has yet to demonstrate tangible effects on conservation of biodiversity and ecosystem services because of its short time in operation, it has potential to encourage environmental and cultural heritage protection at both the landscape (habitat) scale (through links between villages, particularly in partnership with conservation NGOs) and the local (village) scale.

## Recommendations for sustaining the ecosystem benefits of ecotourism in agricultural zones in the Pacific Islands

### Strong involvement of local communities and support for alternative income-generating activities

As highlighted in the above cases, successful ecotourism enterprises in the Pacific Islands involve the participation of local landowning communities at all stages, from the initial concept to project planning and implementation, day-to-day operations and fair distribution of the economic benefits (Morrison and Buckley, 2010; Hunnam, 2002; Keppel *et al.*, 2012). This requires intensive and continuing dialogue and education between landowners and operators (if not from the community) at all stages. Such dialogue cements commitment to sustainable use of resources; permits increased ownership of the project; helps to manage community and operator expectations; and improves long-term support by local communities (essential because ecotourism enterprises, including agritourism, are generally small in scale and require time to generate tangible benefits).

Supporting diversification of local communities' roles in ecotourism also improves its success. Community members can be active within the tourism operation (e.g. as managers, guides, hospitality staff) or support the tourism value supply chain (e.g. by providing local produce, handicrafts, transport). Funds derived from ecotourism can also be used to support alternative livelihoods such as community bakeries or plant nurseries, which may or may not feed back into the tourism sector.

### **Government support for biodiversity conservation through tourism revenue**

Tourism profits, along with specific taxes and levies, can be used to pay for the conservation of the natural resources that provide the core of the sustainable tourism industry, as recommended by Cook Islands, Fiji, Niue, Palau and Tonga in their NBSAPs. In Cook Islands and Palau this is already occurring: “Green fees” paid with departure taxes are used for protected area conservation and management. Samoa has established 20 protected sites based on their tourism significance. Governments could increase their investment in biodiversity conservation by reinvesting tourism revenue into enterprises or operations that promote conservation and/or sustainable use of natural resources, including those involved in agritourism or sustainable agriculture.

### **Education of all stakeholders on biodiversity and ecosystem services protection beyond provisioning services**

While some ecosystem services are well-known, such as freshwater, food and wood, others are less obvious but no less important, including climate regulation, protection from soil erosion, pollination and biological control. Education of all stakeholders potentially involved in ecotourism (e.g. local communities, local authorities, the private sector and national governments) on the importance of all types of ecosystem services and the link among them is critical for improving attitudes towards and support for ecosystem protection. Most successful ecotourism enterprises conserve the natural base of their operations (e.g. individual species, habitats) but also recognize the importance of conservation of all biodiversity, incorporating wider-ranging conservation practices with larger-scale benefits. Traditional knowledge of biodiversity and sustainable use of natural resources, including traditional agricultural practices, should also be promoted and utilized in relation to protection of ecosystem services.

### **Strong links between ecotourism operators, markets and other industries**

Most ecotourism enterprises in developing countries are small to medium-sized businesses and are often community based. These types of enterprises and products often struggle to reach markets, as their isolation, small size and lack of resources and skills make cost-effective promotion a challenge. Successful ecotourism enterprises involve local communities, private-sector enterprises, NGOs, local authorities and protected areas, national governments and international agencies in ecotourism development and marketing. Priorities for improved links can include infrastructure improvement, e.g. more reliable transport, and featuring ecotourism more strongly in destination and thematic promotional campaigns, including the promotion of niche markets, such as agritourism, and the role of local agricultural producers in sustainable tourism enterprises. International and domestic tour operators not only promote ecotourism but can advise on product development and quality based on knowledge of visitor requirements and market trends. Small, individual ecotourism enterprises can work together to strengthen their marketing outreach and avoid duplication of products in the same locality.



## Incentives for conservation of biodiversity and ecosystem services at different scales

The highest levels of biodiversity in managed landscapes are more likely to be conserved for intrinsic (traditional value/social customs) or utilitarian (direct use) reasons than for functional or ecosystem services (Swift, Izac and van Noordwijk, 2004). As a result, most incentives for biodiversity conservation relate to protection of provisioning and cultural ecosystem services rather than regulating or supporting services. In the Pacific, most ecotourism conservation activities focus on species, habitats and ecosystems that will provide economic, subsistence livelihood and cultural use benefits for local landowning communities and tourism operators. As concepts such as carbon sequestration, nutrient cycling and climate regulation are less tangible and more difficult to explain, biodiversity conservation for these purposes is generally less well supported by all stakeholders.

Many Pacific ecotourism operations and the ecosystem services they provide and/or depend on are context-specific and small in scale. Most operations can conserve species or habitats at the local scale, but many important functional and supporting ecosystem services occur at a larger (e.g. catchment) scale. A coordinated strategy is therefore needed to conserve these ecosystem services at appropriate scales and over various land uses. Although some public policies exist to create incentives for individual operators (e.g. ecoresorts) or industries (e.g. tourism, transport, agriculture) to act on behalf of the common good, current policies are not designed to encourage coordinated behaviour within or among these groups (Zhang *et al.*, 2007).

### Strong cross-sectoral linkages

Strengthening linkages between the tourism and agriculture sectors can increase the value of both sectors for national economies and benefit rural populations, which are largely responsible for ecosystem service protection. Demand for healthy or organic products for tourists promotes more sustainable agricultural methods and biodiversity protection. To meet the requirements for supplying fresh produce to the tourist market, local producers will need to find profitable and feasible ways to increase volume, quality and regularity. Meeting new market requirements will require significant investment in productivity, marketing, transport and methods to ensure that local products meet international food safety and quality standards (FAO, 2014b) (Box 18). Such links are currently absent or poor in most Pacific Island countries.

The ability to meet these requirements also depends on the government's ability to lower the costs of doing business for local, rural producers (e.g. through tax incentives for sustainable agriculture and investment in transport infrastructure). Many Pacific Island countries rank low in World Bank evaluations of ease of doing business, number of days to start up a new business and number of start-up procedures involved (World Bank, 2016). The difficulties associated with starting up new businesses and the lack of government incentives (e.g. tax concessions) for the establishment of operations that support conservation of biodiversity and ecosystem services and/or sustainable community development are also a challenge for the development of a sustainable agriculture-related ecotourism industry.

### Box 18. Pacific Organic Tourism and Hospitality Standard

The Pacific Organic and Ethical Trade Community (POETCom) is developing the Pacific Organic Tourism and Hospitality Standard with the following objectives:

- » to help protect the character and reputation of the Pacific tourism and hospitality sector and the core values that have made destinations in the Pacific Islands so desirable;
- » to develop markets for locally produced organic food, to enhance the livelihoods of the small farmers who grow much of this produce;
- » to meet the Global Sustainable Tourism Council's Criteria for Hotel and Tour Operators.

POETcom is currently developing mechanisms for inspection and certification to the tourism standard. The standard will be piloted in Fiji, Samoa and Vanuatu through the Farm to Table programme (see Box 17) beginning in late 2016.

The links between ecotourism operators and national or regional tourism bodies are also generally poor. Most ecotourism operations in PICTs rely on self-promotion through their own websites, brochures and other digital media (e.g. Facebook) to communicate their ecocentric ethos and the benefits of their organizations for the triple bottom line, including direct or indirect protection of ecosystem services. National and regional tourism agencies promote ecotourism activities (generally much less extensively than traditional sun and surf tourism) with no recognition of the contribution of ecotourism to the ecosystem services on which the whole industry relies. There is also no national or international promotion of niche markets relating to agriculture and conservation of ecosystem services, e.g. agritourism.

### Land tenure, community participation, equity and benefit distribution

Local community landowners are of central importance for conservation in PICTs because they own more than 80 percent of the land (Ward, 2000), have broad and unique knowledge of their biodiversity and depend on the environment for their survival (Keppel *et al.*, 2012). Decisions on the use of community-owned land therefore must involve all local community landowners. Conservation and sustainable development activities, including ecotourism and sustainable agriculture, generally cannot be implemented by the government or other organizations without support and approval by landowning communities (Hunnam, 2002).

Differences of opinion among multiple landowners can complicate decision-making on the best use of community-owned land. In terms of biodiversity conservation, this can lead to delays in the implementation of conservation activities (e.g. reforestation), bans on environmentally detrimental activities (e.g. intensive agriculture) and the introduction of sustainable land-use measures (e.g. ecotourism or ecologically intensive agriculture), leading to a patchwork of different land uses across the landscape and subsequent negative impacts on ecosystem services.

These differences of opinion are often based on inequalities in participation and distribution of benefits from different land uses. Most Pacific societies are patriarchal, and input from women



and young people in decision-making is particularly limited. Hierarchical social structures are also present in many PICTs, allowing chiefs or community leaders more prominence in decision-making and a larger share of the community benefits.

## Recognition of the challenges

Ecotourism has been promoted as a sustainable alternative income generating activity in the subregion for decades. Unfortunately, the difficulties associated with producing a viable product are rarely acknowledged. There are many instances of the “build it and they will come” approach, which usually results in poor success rates. Many tourism operations in the region have failed because of inadequate competitiveness in the established market (too many similar products on offer, e.g. village stays), marketing and links to national tourism promotions, financial and business management capacity and product quality. Other obstacles include unrealistic expectations and time frames, unequal distribution of benefits and limited or unreliable transport access, among others. Lack of economic success and/or long delays in receiving benefits often leads these enterprises to resume or begin activities that are not environmentally sustainable (e.g. logging, intensive agriculture) to generate income in the short term.

Factors that could contribute to a more successful product in the long term include better management of community and operational expectations (time-frames, profits, revenue-sharing), education on product development and management (operations, business plans, marketing, diversity) and better links with other sectors, as mentioned above.

## Recommendations for capturing ecotourism in NBSAPs and other policies

Of the 14 Pacific Island NBSAPs, ecotourism is mentioned in relation to sustainable economic development in ten, biodiversity in nine, ecosystem services in two and agriculture in only one (Table 11). Ecotourism is explicitly mentioned in 18 percent of the conservation themes and can potentially be included in an additional 34 percent, primarily in relation to sustainable natural resource use, financial mechanisms for biodiversity conservation and mainstreaming biodiversity. Countries with large tourism sectors already include ecotourism in many of their conservation themes, while those with small tourism industries rarely include ecotourism (e.g. Marshall Islands, Nauru, Solomon Islands). Eleven countries are currently using ecotourism to promote and encourage terrestrial biodiversity conservation (based on NBSAPs and latest national reports to CBD), and all except two (Marshall Islands, Nauru) are planning to do so in the future.

Tonga’s NBSAP provides an example of how the links between ecotourism, agriculture and conservation can be promoted or mainstreamed in an NBSAP. Continuing expansion of large-scale commercial agriculture constitutes the most significant cause of forest ecosystem degradation and habitat loss in Tonga and the biggest threat to the conservation of biodiversity. The priority placed

on agriculture for food security and for export dictates that in terms of land use, agriculture will continue to dominate. Tonga's NBSAP contains five thematic areas that are relevant to this issue:

- » Theme 1 (Forest Ecosystems) focuses on arresting agroforestation, integrated land-use planning and conservation areas.
- » Theme 3 (Species Conservation) focuses on protecting priority species (which can include agricultural species) and their sustainable use and management.
- » Theme 4 (Agrobiodiversity) is concerned with the conservation and sustainable use of threatened agrobiodiversity.
- » Theme 7 (Mainstreaming Biodiversity Conservation) involves legislation, policy and plans.
- » Theme 8 (Financial Resources) includes economic tools and instruments for conservation funding, e.g. ecotourism fees to fund biodiversity conservation.

Table 11. **Mention of terrestrial ecotourism in Pacific Island NBSAPs**

COUNTRY	NBSAP BIODIVERSITY CONSERVATION THEMES			ECOTOURISM MENTIONED IN RELATION TO				ECOTOURISM IMPLEMENTATION IN RELATION TO TERRESTRIAL BIODIVERSITY CONSERVATION <sup>a</sup>	
	Total number	Number explicitly including ecotourism <sup>b</sup>	Potential additional themes to include ecotourism <sup>b</sup>	Sustainable economic development	Biodiversity	Ecosystem services	Agriculture	Current	Planned
<b>Cook Islands</b>	8	2	3	Y	Y	Y	N	Y	Y
<b>Fiji</b>	6	3	1	Y	Y	N	N	Y	Y
<b>Federated States of Micronesia</b>	11	4	3	Y	Y	N	N	Y	Y
<b>Kiribati</b>	8	2	1	Y	N	N	N	N	Y
<b>Marshall Islands</b>	5	0	1	N	N	N	N	N	N
<b>Nauru</b>	8	0	2	N	N	N	N	N	N
<b>Niue</b>	8	1	2	Y	Y	N	N	Y	Y
<b>Palau</b>	8	2	3	Y	Y	N	N	Y	Y
<b>Papua New Guinea</b>	9	0	4	N	N	N	N	Y	Y
<b>Samoa</b>	8	2	4	Y	Y	Y	Y	Y	Y
<b>Solomon Islands</b>	12	0	5	N	Y	N	N	Y	Y
<b>Tonga</b>	8	2	3	Y	Y	N	N	Y	Y
<b>Tuvalu</b>	8	1	3	Y	N	N	N	Y	Y
<b>Vanuatu</b>	6	1	3	Y	Y	N	N	Y	Y

<sup>a</sup> Based on NBSAP and latest national report to the CBD (fourth report for Cook Islands, Papua New Guinea and Tuvalu; second report for Marshall Islands; fifth report for all other PICTs)

<sup>b</sup> Includes themes implicitly including tourism as well as new themes.



The different themes and their implementation involve a number of different stakeholders, but the overall link between themes and stakeholders is explicit throughout the document.

Less commonly, some countries promote links between the different sectors involved in biodiversity conservation, ecotourism and agriculture in their NBSAPs. Fiji promotes links between the tourism industry and organizations involved in establishing protected areas. The Federated States of Micronesia promotes links between government and ecologically friendly industries (e.g. ecotourism, sustainable agriculture) through the provision of economic incentives. Palau promotes links among all sectors involved in economic development and biodiversity conservation. Several countries also focus specifically on the conservation and sustainable use of agrobiodiversity. For example, the Federated States of Micronesia and Samoa highlight the importance of identifying, developing and establishing botanic gardens featuring locally endemic, endangered and threatened species; Tuvalu highlights the importance of the production and consumption of local food; and Solomon Islands wants to strengthen the conservation, management and use of agrobiodiversity, including traditional knowledge.

Several other national policies could capture ecotourism and its contribution to biodiversity, particularly those dealing with tourism development, sustainable or strategic development, agriculture and protected area management (Table 12), usually through stronger links among the different stakeholder groups involved in natural resource use and management. For example, the Federated States of Micronesia Agriculture Policy (2010) explicitly states the importance of increasing the links between the agriculture and tourism sectors and identifies several strategies for doing so, all involving collaboration with the tourism industry:

- » market studies to identify the demand profile of the tourism market segment (seasonal trends or patterns in demand and current market share of local produce by product, volume and value);
- » strategic reorientation of small-scale farmers' production operations (including transport and storage) to meet the needs of the hotel and restaurant sector;
- » exploration of opportunities for promoting local foods in restaurant and hotel menus;
- » exploration of opportunities for agriculture tours and farm stays.

Similar strategies could be carried out in any of the countries in the subregion.

Table 12. Sectoral policies, legislation or plans that can or do associate ecotourism with ecosystem services protection<sup>a</sup>

COUNTRY	POLICY	ECOTOURISM AND ECOSYSTEM SERVICES		ECOTOURISM AND/OR ECOSYSTEM SERVICES IN RELATION TO AGRICULTURE		CURRENT OR POTENTIAL PARTNERS/STAKEHOLDERS <sup>b</sup>
		Current	Potential	Current	Potential	
Cook Islands	International Department Tax Amendment Act 1984	Y	Y	N	N	Cook Islands Tourism Corporation
	National Sustainable Development Plan	Y	Y	N	Y	
	Draft Tourism Master Plan	Y	Y	N	Y	
Fiji	National Tourism Development Plan	N	Y	N	Y	Tourism Fiji Ministry for Industry, Trade and Tourism iTaukei Land Tenure Board
	Rural Land Use Policy 2006	N	Y	N	Y	
	National Environment Strategy	Y	Y	N	Y	
	Integrated Coastal Management Framework	Y	Y	N	Y	
FSM	FSM Agriculture Policy	N	Y	Y	Y	FSM Visitors Board
	National Strategic Development Plan	N	Y	N	Y	
	State Strategic Development Plans	N	Y	N	Y	
Kiribati	Kiribati Integrated Environment Policy	N	Y	N	Y	Ministry of Communications, Transport and Tourism Development Kiribati National Tourism Office
	Kiribati National Tourism Action Plan	N	Y	N	Y	
	Kiribati Development Plan	Y	Y	N	Y	
Nauru	-	-	-	-	-	Ministry for Commerce, Industry and Environment
Niue	National Capacity Development Strategy and Action Plan	N	Y	N	Y	Niue Tourism Niue Government Commercial and Trading Arm – Tourism
	Niue Sustainable Coastal Development Policy	N	Y	N	Y	
	Village Development Plans for Hakupu and Tuapa villages (ecotourism sites)	Y	Y	N	Y	

<sup>a</sup> The list is not exhaustive.

<sup>b</sup> In all countries, partners/stakeholders will need to include local communities and tourism operators, government ministries in charge of the environment and/or natural resources, and the regional South Pacific Tourism Organisation.

CONTINUES →



COUNTRY	POLICY	ECOTOURISM AND ECOSYSTEM SERVICES		ECOTOURISM AND/OR ECOSYSTEM SERVICES IN RELATION TO AGRICULTURE		CURRENT OR POTENTIAL PARTNERS/STAKEHOLDERS <sup>b</sup>
		Current	Potential	Current	Potential	
Palau	Palau Megapode Conservation Action Plan	Y	Y	N	N	Palau Visitors Authority Ministry of Natural Resources – Tourism Bureau
	State-level Master and Land Use Plans	N	Y	N	Y	
	State-level and protected area-specific management plans	N	Y	N	Y	
	State-level Conservation Action Plans	N	Y	N	Y	
Papua New Guinea	Papua New Guinea Development Strategic Plan, 2010–2030	Y	Y	Y	Y	Papua New Guinea Tourism Promotions Authority Department of Culture and Tourism
	Environment Act 2000	N	Y	N	Y	
Samoa	Samoa Tourism Development Plan	N	Y	N	Y	Samoa Tourism Authority Ministry for Natural Resources and Environment
	Environment Management and Conservation Bill 2013	N	Y	N	Y	
	National Environmental Sector Plan 2013–2016	N	Y	N	Y	
	Strategy for the Development of Samoa 2012–2016	Y	Y	N	Y	
Solomon Islands	Protected Areas Act	N	Y	N	Y	Solomon Islands Visitors Bureau Ministry of Culture and Tourism
	Solomon Islands Government Policy on Organic Agriculture Systems (2010)	N	Y	N	Y	
	Solomon Islands National Development Strategy 2011–2020	N	Y	N	Y	
Tonga	National Strategic Planning Framework – 2010	N	Y	Y	Y	Tonga Tourism Authority Ministry of Tourism
	Agriculture and Tourism Linkages in Pacific Island Countries – 2012 Tonga Tourism Sector Roadmap 2014–2018	N	Y	Y	Y	

CONTINUES →

COUNTRY	POLICY	ECOTOURISM AND ECOSYSTEM SERVICES		ECOTOURISM AND/OR ECOSYSTEM SERVICES IN RELATION TO AGRICULTURE		CURRENT OR POTENTIAL PARTNERS/STAKEHOLDERS <sup>b</sup>
		Current	Potential	Current	Potential	
<b>Tuvalu</b>	National Strategies for Sustainable Development 2005–2015	N	Y	N	Y	Ministry of Foreign Affairs, Trade, Tourism, Environment and Labour
<b>Vanuatu</b>	National Conservation Strategy (1993)	N	Y	N	Y	Vanuatu Tourism Office
	Vanuatu Forest Policy (2013–2023)	N	Y	N	N	National Tourism Development Office
	Overarching Productive Sector Policy (2012–2017)	N	Y	N	Y	Ministry for Trade, Tourism, Commerce and Industry
	Vanuatu Strategic Tourism Action Plan 2014–2018	N	Y	Y	Y	
	Provincial tourism plans	N	Y	N	Y	