

Management of Palau's Natural Resources through Optimal Environmental Taxation

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Abstract

Majority of small island developing states as well as other countries have continuously relied on tourism as a major contributor to economic growth, development and stability. In the past decade, the Republic of Palau has experienced increasing numbers of tourist arrivals, resulting in growing concerns of the impacts of tourism related socio-economic activities on Palau's natural environment. In dealing with this large influx of tourists to Palau, the Palau National Government has initiated and implemented environmentally related tax rates, as a way to preserve the quality of Palau's fragile environment. The main objective of this research is to: 1) explore and determine the optimal environmental tax rate for Palau in order to ensure environmental sustainability and maximum economic results for Palau's economy, and 2) explore and examine the economic, environmental and social impact of the existing environmental tax policies on Palau's Economy as well as the tourism industry 3) determine the revenue gains and losses from changes in tourist numbers and the impact it will have on different sectors of Palau's economy. The results from this study can be utilized by policy makers and relevant stakeholders in enhancing and implementing existing environmentally related tax rates and policies to ensure minimal damages to Palau's natural environment. This study builds on a limited knowledge base for tourism economics for small island developing states and can be useful for managers and relevant stakeholders for the environmental sustainability of island ecosystems.

Introduction

The Republic of Palau is located in western Micronesia in the northwestern Pacific Ocean. It is situated east of the Philippines and north of Irian Jaya in Indonesia. It consists of over 500 islands with a total land area of approximately 487 km². Palau has a total population of approximately 21,000 people and is also known for its rich marine biodiversity and has become one of Micronesia's prime locations for divers and snorkelers. Over the past decade, the island nation has seen a rise in tourism numbers, mainly from Asia, Europe and the United States and this has strengthened Palau's economy, making the tourism industry as Palau's main revenue source. Although this increase in tourism numbers has contributed to economic growth, it poses an environmental challenge to Palau's natural ecosystems. More specifically, since 2009 between 70 to 80 percent of annual tourist arrivals visit Palau's Rock Island Southern lagoon, mainly for scuba diving and snorkeling related activities (Koror State Government). In 2015, Palau received its largest number of visitor arrivals at 168,767 visitors, the highest recorded number of visitors in Palau's tourism history (Figure 1). This sudden influx of tourist numbers has become alarming for site managers as well as the national government in terms of Palau's capacity to sustainably manage its natural environment with such a high number of visitors. With the recent increase of tourist numbers to Palau, there is a strong need in finding the optimal balance between the tourism industry and environmental sustainability in Palau, most especially since Palau's economy relies heavily on its natural environment.

For Small Island Developing States (SIDS), tourism presents an opportunity for host governments to obtain much needed foreign exchange and tax revenues; an opportunity for the local population to gain much income and employment; and an opportunity to improve basic infrastructure such as roads, airports and utilities that the local population can use (in conjunction with international tourists) (Pratt, 2015). In addition, tourism creates heavy use of free-shared resources, such as the natural environment, and management of these resources costs money (Cetin et al, 2017).

Currently, there are numerous management policies and strategies in place aimed at managing Palau's natural resources. These policies include, the Palau Protected Areas Network, which is a system of national protected areas that aims to protect Palau's natural biodiversity; as well as Environmentally related taxes aimed at internalizing social and environmental costs associated with tourism, in order to maintain environmental sustainability in Palau.

One of the most common ways in which destinations seek to ensure that social and environmental costs arising from tourism development are combated or internalized, is through effective implementation of direct (e.g. city tax, lodging tax, car rental tax, entrance fees, visa fees) or indirect (e.g. sales tax, VAT) local corrective taxes (Cetin et al, 2017). In addition, the effectiveness and efficacy of tax imposition on a specific industry requires related studies in order to measure the relative responsiveness of the industry to tax impositions. Yet,

very little information exists about the relative responsiveness of Palau’s tourism industry to changes in environmentally related taxes and the optimal balance between number of tourists, environmental sustainability and maximum economic benefits at present time and for the long-term.

With the tourism industry as the main source of revenue for Palau’s government, this has also posed a threat to Palau’s natural ecosystems with the potential overuse of the natural environment. Due to Palau’s heavy reliance on tourism, it is critical to find the optimal balance between its tourism industry and revenues, while ensuring environmental sustainability. Without optimal tourism revenues, it will also be too challenging for Palau to preserve its natural environment and improve its tourism services and products. This study will ensure that there will be at least a baseline study that is conducted regarding Palau’s tourism industry, since very little information exists about the responsiveness of the tourism industry to environmentally related taxes for Palau.

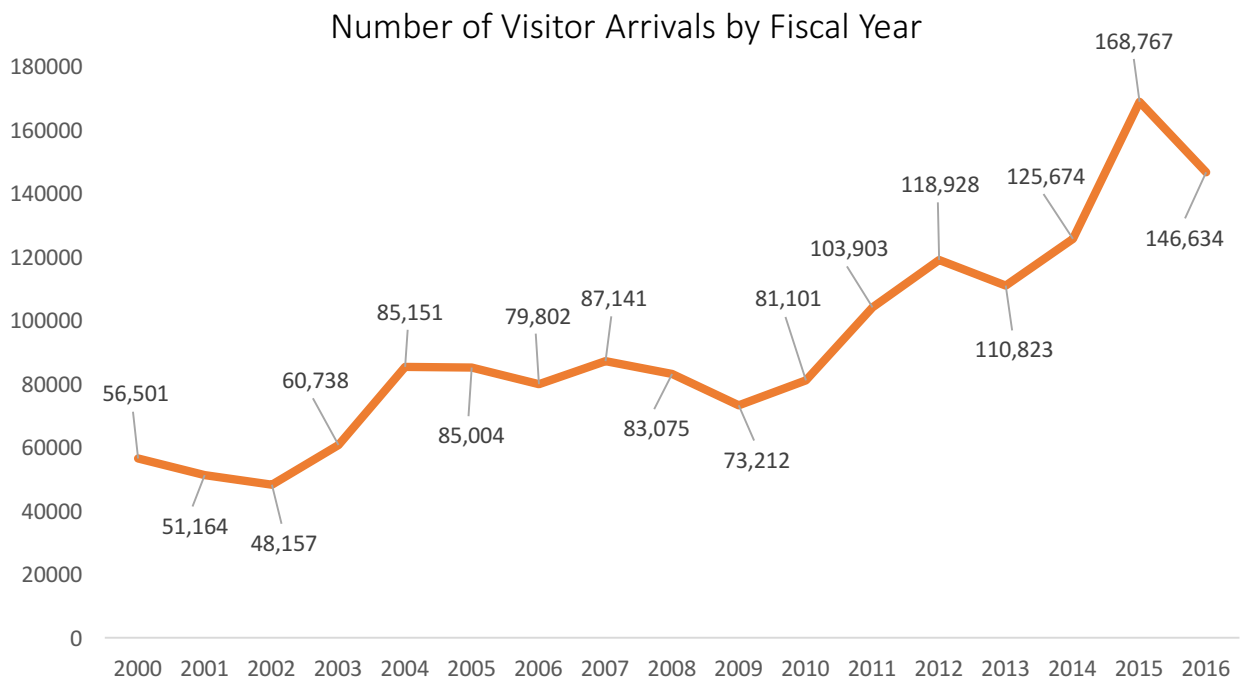


Figure 1. Number of Visitor Arrivals to Palau by Fiscal Year. Source: Bureau of Budget Planning & Statistics, Ministry of Finance, Republic of Palau, 2017.

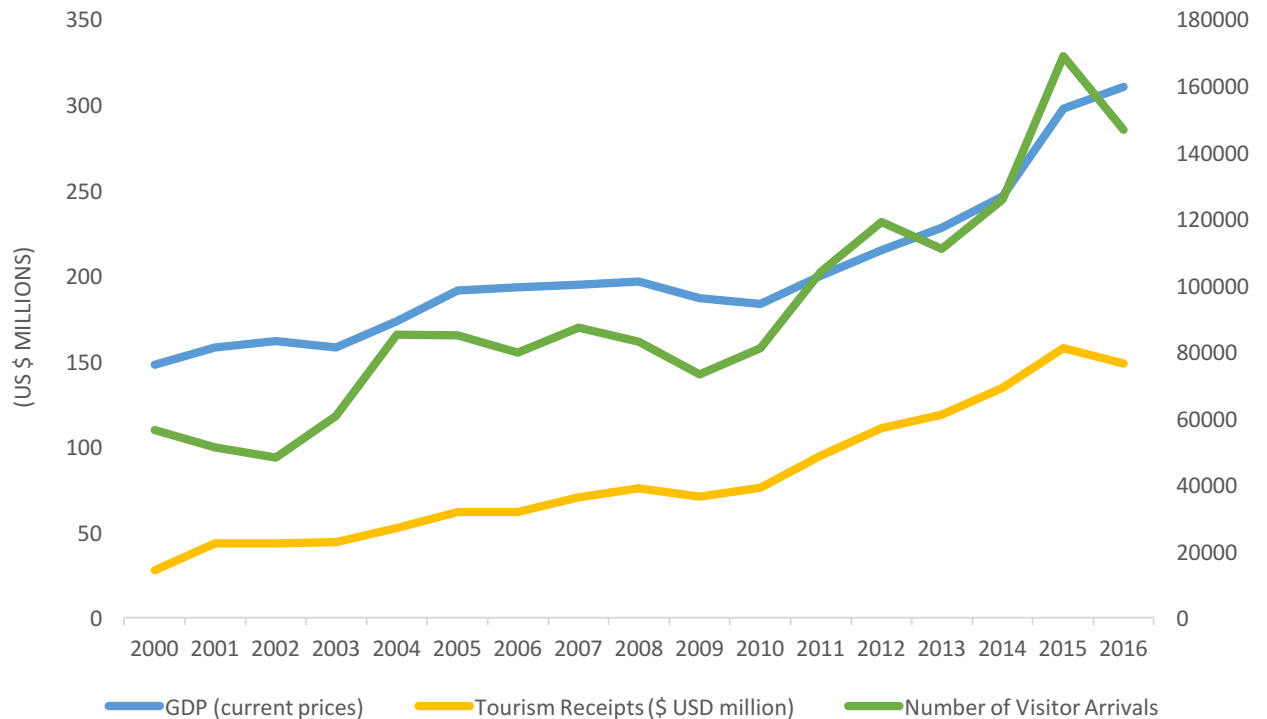


Figure 2. Gross Domestic Product (GDP) in current prices, total tourism receipts (USD\$ Millions) and the annual number of visitor arrivals to Palau. Source: Bureau of Budget Planning & Statistics, Ministry of Finance, Republic of Palau, 2017.

Problem Statement

Since 2014, Palau has experienced a drastic increase in numbers of tourist (Figure 1). Although this has increased National Government Revenues in the short-term, very little information is known regarding the optimal balance between number of tourists, environmental sustainability and maximum economic benefits at present time and for the long-term. In 2014 and 2015, Palau’s tourism economy experienced a shift into mass-market tourism which was driven by integrated package tours, resulting in lower in-country visitor spending (Palau National Tourism Policy Framework, 2017-2021). This dramatic shift in the tourism industry has posed a threat for Palau, socially, environmentally and economically as Tourism is also Palau’s main form of industry comprising roughly 20 percent of annual Gross Domestic Product (Bureau of Budget Planning & Statistics, Ministry of Finance, Republic of Palau, 2017). Resolving these issues is critical, as there is a strong need for sustainable tourism and development to ensure minimal environmental damages while generating optimal economic benefits for the country. Introduction and evaluation of the environmental tourists (pro-behavioral) is also critical in the process of determining the optimal number of tourists and associated environmentally related fees (Oliveira et al. 2017).

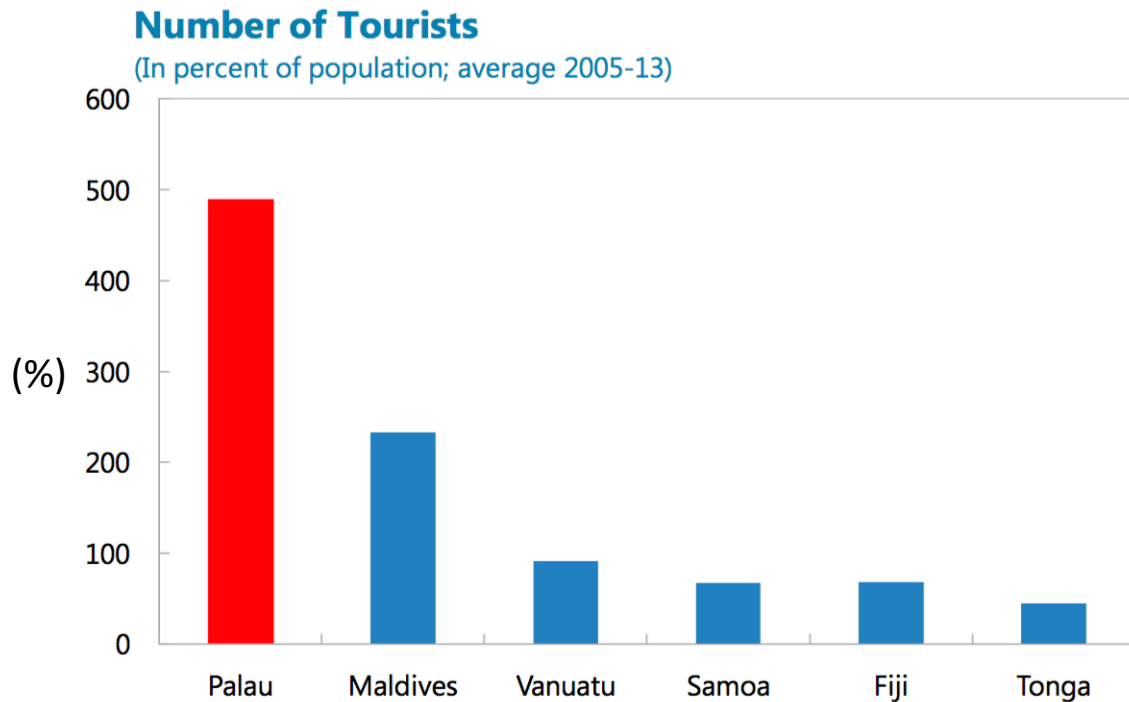


Figure 3. Shows that the number of tourist arrivals to Palau is approximately five times larger than the local population compared to neighboring countries with similar tourism demand. Source: IMF Republic of Palau Country Report, 2014.

Objectives

The main objective of this research is to: 1) examine the tax price elasticity of tourism demand for Palau 2) explore and examine the economic, environmental and social impact of the existing environmental tax policies on Palau’s Economy as well as the tourism industry 3) determine the revenue gains and losses from changes in tourist numbers and the impact it will have on different sectors of Palau’s economy 4) examine the optimal environmental tax rate for Palau in order to ensure environmental sustainability and maximum economic results for Palau’s economy.

Methods

The data collection method for this study will be primarily through a semi-structured survey questionnaire using the stated preferences approach. The questionnaire includes translated versions in Japanese, Korean, English and Chinese languages. This study will use the random sampling method targeting tourist visitors who are departing from Palau, on various airlines. The questionnaire covers basic trip characteristics of tourists, estimated tourist expenditures, responsiveness to changes in tax values and basic demographics. The survey took place in the departure lounge area at the Palau International Airport located in Koror, Palau. The minimum sample size required is 200 completed questionnaires, more completed surveys will yield better results.

Analysis

The analysis for this research will include analyzing the percent (%) change of number of visitors according to different changes in environmental tax amounts; determine the relative distance and cost of tourist arrivals through survey questionnaire data; determine revenue loss or gains from an increase and/or decrease in tourist arrival numbers and the impact on Palau's economy and environmental sustainability. Data analysis will involve using SPSS (Statistical Package for the Social Sciences) to analyze differences and similarities among tourism groups by country of origin, and socio-economic background. Analysis will also include basic percentages, means and sums of survey questionnaire results with minimum, maximum and optimal related fees and number of tourists.

Expected results

Expected results and achievements from this research include finding the optimal balance between numbers of tourists, environmental sustainability and maximum revenues for Palau's economy. There also has been no concentrated study that focuses on finding this critical optimal balance for Palau. This would be a baseline study for Palau's Tourism Industry regarding tourist numbers as well as for future studies regarding Palau's fragile Economy and Environment.

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