Journal of Sustainable Development; Vol. 9, No. 4; 2016
ISSN 1913-9063 E-ISSN 1913-9071
Published by Canadian Center of Science and Education

Tourism Regional Multiplier Effects in Tanzania: Analysis of Singita Grumeti Reserves Tourism in the Mara Region

Adam Mwakalobo[1], Abiud Kaswamila[2], Alex Kira[3], Onesmo Chawala[4] & Timothy Tear[5]

[1] Department of Economics and Statistics, University of Dodoma, Dodoma, Tanzania

[2] Department of Geography and Environmental Studies, University of Dodoma, Dodoma, Tanzania

[3] Department of Accounting and Finance, University of Dodoma, Dodoma, Tanzania

[4] Department of Business Administration, University of Dodoma, Dodoma, Tanzania

[5] Wildlife Conservation Society, New York, USA

Correspondence: Adam Mwakalobo, Department of Economics and Statistics, University of Dodoma, P. Box 395, Dodoma, Tanzania. E-mail: adbsmwakalobo@yahoo.com; adam.mwakalobo@udom.ac.tz

Received: June 30, 2015 Accepted: July 24, 2015 Online Published: July 30, 2016

doi:10.5539/jsd.v9n4p44 URL: http://dx.doi.org/10.5539/jsd.v9n4p44

Abstract

The main focus of this study was to establish the economic impacts of a single tourism business operated in a rural area on a regional economy in Africa. This paper presents a case study of the regional multiplier effects of Singita Grumeti Reserves' (SGR) tourism investment in the Mara region, Tanzania. The recursive Keynesian multiplier approach was used to identify significant economic multiplier effects larger than any other multiplier effects we could find published for relevant, comparable studies (Type 1 average 1.57 from 2008-2013, range 1.24 – 1.81). This result was contrary to economic theory that predicts the multiplier effect in this case should be low given the small area of investment in comparison to the much larger regional economy. In addition, these results represent underestimates, as the multiplier effects established in this study did not factor in substantial positive environmental and socio economic impacts accrued from SGR's non-profit partner organization, the Grumeti Fund. Consequently, our study findings present compelling evidence that SGR tourism investments, when combined with the Grumeti Fund's conservation and community development activities, demonstrate a pro-poor economic approach of substantial benefit to the Tanzanian economy. This was possible because the investment made by one private company is relatively substantial in comparison to the limited government services provided to the Mara Region, where nearly half of the 1.7 million people in this region remain in the poverty trap. These results provide compelling evidence that this type of high-value low-volume tourism investment can also contribute to sustainable and equitable socioeconomic development when paired with conservation and community development efforts. This assessment also demonstrates the value of ecosystem services derived from conserving Tanzania's rich and globally significant natural heritage for the benefit of both people and nature. As there is more tourism potential in Tanzania, Tanzanian government authorities at all levels should consider encouraging and supporting similar tourism investments (i.e., high-value low-volume tourism model). This support could be tailored to providing incentives such as tax rate reduction or exemptions to encourage this specific type of tourism investment. Private investment is particularly important in rural and underserved regions in Tanzania– like the Mara Region – where there have been limited economic investments despite substantial opportunities for economic growth.

Keywords: tourism investment effects, poverty alleviation, conservation, community development, pro-poor policies

1. Introduction

In recent years, tourism has grown to become one of the largest industries in the world, contributing significantly to the global economy. Recognizing the importance of tourism, the Tanzanian government views this sector as a significant industry in terms of job creation, poverty alleviation, and foreign exchange earnings. As such the sector receives greater attention than ever before from international development agencies and at the national level. Consequently, Tanzania's tourist industry has been growing rapidly over the past decade. The sector is estimated to account for approximately 17% of the GDP and nearly 40% of total export earnings as of 2009

(URT, 2011; Mariki, et al., 2011).

Substantial empirical evidence exists on the contribution of tourism to the national economy, however, very scant information is available on the impact of specific types of tourism investment on local areas or regions where tourism investments impact local communities(Mayer, 2010; Binns and Nel, 2002; Milne and Ateljevic, 2001; Walpole and Goodwin, 2000). Moreover, substantial empirical studies on the impact tourism have focused on measuring economic impact in terms of employment creation, revenue and foreign earnings, neglecting the social and ecological (environmental) impacts of tourism (Mbaiwa, 2003; Binns and Nel, 2002; Brohman, 1996; Lindberg and Johnson, 1997; Briassoulis, 1991). Comprehensive analyses that combine both economic and non-economic assessments can generate information that has the potential for far-reaching implications regarding policy formulation and design as well as tourism planning and development (Briassoulis, 1991). This study addresses this information gap, by investigating the economic impact of tourism activities on a local area, while at the same time incorporating social and environmental effects. We selected the Mara Region of Tanzania along the border of the Ikorongo and Grumeti Game Reserves (IGGR) and Ikona Wildlife Management Area (WMA) as our study area where Singita-Grumeti Reserves (SGR) offer tourism goods and services, and the Grumeti Fund (GF) provide conservation and community development support.

2. Historical Context: The Development of Tourism in Tanzania

2.1 Overview of the Tanzanian Economy

Tanzania is among the poorest countries in the world. The larger proportion of the populace has remained poor since independence in 1961. The per capita annual income has remained low at US$ 955 as of 2014 (World Bank, 2015). The Tanzanian economy is characterized by two distinct economic structures: a traditional rural sector and a modern urban sector. The rural sector focuses much on the production of food and cash crops, whereas the modern urban sector, which is relatively small, is concerned with manufacturing and service activities. The share of the agricultural sector to the nation's gross domestic product (GDP) has been more than one-third over the period between 1970 and 2001. However, there are signs of structural transformation in Tanzania's economy with steadily increasing shares of total GDP from services, manufacturing and construction. The contribution of the agricultural sector to GDP has declined from 29% in 2001 to 24.7% in 2012. Correspondingly, the service and construction sectors increased from 41.7%, and 4.4% in 2001 to 43.9% and 8.1% in 2012, respectively. The manufacturing sector remained at 8.4 % during the same period (URT, 2012).

The implementation of economic reforms introduced by the World Bank and International Monetary Fund (IMF) in 1986 led to major institutional changes. The Tanzania government liberalized trade, reduced the monopoly of government's intervention in tourism and privatized public enterprises by allowing private sector ownership (Kilungu, 2014; Lwoga, 2013; Salazar, 2009). This led to a significant increase in the participation of the private sector and structural transformations in the tourism industry. The tourism industry now constitutes a substantial part of the services sector; contributing over 17% to GDP and nearly 40% of total export earnings as well as employing over 11% of the national labor force (URT, 2013). The sector employs more young people and women than most sectors, as well as empowering small and medium enterprise (SME) development.

The Tanzanian economy averaged 7 percent annual growth over the decade between 2002 and 2012. However, despite strong and sustained economic growth rates, only a slight reduction in income poverty has been achieved. The proportion of the population below the basic needs poverty line, for example, declined only slightly from 35.7% in 2001 to 33.6% in 2007, with the poverty rate being very high in rural areas where the majority live (URT, 2011).

2.2 Tourism Development in Tanzania

The evolution and development of the tourism industry in Tanzania can be directly and indirectly linked to major interventions including changes in the policy environment, as well as strategies and investments that have been put in place to support tourism sector development. The development of Tanzania's tourism sector can be traced through four major distinct periods: colonial, independence, Ujamaa or Arusha Declaration, and economic reforms (Kilungu, et al., 2014; Lwoga, 2013; Salazar, 2009; Sindiga, 1999). However, significant development and changes in the tourism industry were made during the last period of economic reform (Kilungu, et al., 2014).

The economic reform period covers the time from 1986 to the present. It was during this period when the Tanzanian government made many policy changes in support of the tourism sector. This period is characterized by the removal of trade restrictions, the privatization of state operated enterprises, and the reduction of government's interventions. This period marked the increased participation of private practitioners in running and managing tourism businesses through business partnerships (Kilungu et al., 2014; Lwoga, 2013; Salazar,

2009). However, before this period private sector participation was mainly dominated by local elites and foreigners. Following the implementation of economic reforms, most government operated and owned enterprises have been privatized, and more new national parks, hotels and lodges have been created and opened. During this time, the government formulated a national tourism policy in 1991 and established the Tanzania Tourist Board (TTB) in 1993, including a publicity campaign, which further helped liberalize and privatize the tourism sector.

Recognizing the importance of tourism to the contribution of the economy, the government formulated an Integrated Tourism Master Plan in 1996 to provide tourism development strategies and action plans. The focus of this plan was to improve, develop and refurbish tourist attractions and facilities to attract more tourists visit the country. A new Tourism Master Plan was launched in 2002 when many foreign tour companies were allowed to operate tourism businesses in the country. Recognizing the role of private sector participation in the tourism industry development, the government assisted the formation of the Tourism Confederation of Tanzania (TCT) in 2000, which was officially launched in 2001 that created an apex body of all subsector associations in the travel and tourism industry. Following privatization of state owned tourism assets and the new liberalization policies adopted during this period, indeed, the performance of the sector has been impressive and grown fast as evidenced by continued increase in the number of international tourists visiting the country, increased tourism earnings, and creation of employment opportunities (see Figure 1). The number of tourists increased from 187,000 in 1991 to 1,077,000 in 2012 and the number of hotels increased from 172,000 in 1992 to 975,000 in 2012. Tourism earnings have increased from US$ 95 million in 1991 to US$2.3billion in 2012. Furthermore, annual full-time employment from tourism has grown rapidly from 45,000 to 417,000 over the same period. The remarkable performance of the tourism industry in the country is mainly attributed to policy changes and support by the government. The sector growth has been fluctuating, in some cases attributed to external forces such as the global financial crisis of 2007 to 2009. The sector responded well, and stabilized quickly then grew to more than a million international tourist arrivals in 2012. During this period, earnings rose from US $95 million in 1991 to US $1.7 billion by 2012 (Figure 1).

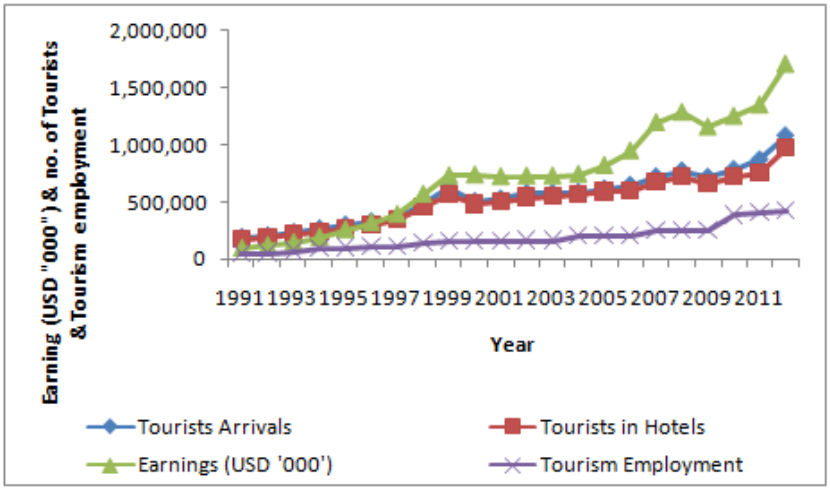

Figure 1. Trends of tourism earnings, employment and tourists in hotels and arrivals for the period 1991 to 2012

Despite this growth in the tourism industry, there is still a great deal of potential to increase nature-based tourism in Tanzania. A recent study by the World Bank has revealed that some sections of the country are underdeveloped, and would benefit from further government support. This will require the integration and close coordination between the private and public sector and promoting as well as building tourism in the southern portion of the country –known as the "Southern Circuit"-where it is not fully exploited (World Bank Group, 2015).

3. Methodology

3.1 Geographical and Conceptual Scope of the Analysis

This study was conducted to analyze the economic impact of SGR tourism investment activities and GF community outreach interventions and conservation work, with particular emphasis on communities surrounding

Ikorongo and Grumeti Game Reserves in Serengeti and Bunda districts in the Mara Region. SGR is located in northern Tanzania, along the western corridor of the Serengeti National Park (Africa's top ranked World Heritage Site and Biosphere Reserve-See Figure 2). SGR was registered in 2002 and has tourism right tenure over the Grumeti Game Reserve (428 Km^2), Ikorongo Game Reserve (567 Km^2) and a portion of the Ikona Wildlife Management Area (148 Km^2), making a total of 1,043 km^2.

Mara is one of the 25 administrative regions of the Mainland Tanzania located in the northern part of the country, with a total population estimate of 1.74 million people in 2012. It is divided into six administrative districts: Bunda, Butiama, Musoma, Rorya, Serengeti, and Tarime. The region is bordered by Mwanza and Shinyanga regions to the south, Arusha region to the east, Kagera region to the west, and the Republic of Uganda and Kenya to the north. Geographically, the region lies between latitudes 1^0 and 2^0 south of the Equator and longitudes 31^010' and 35^015' east of Greenwich. The region is well endowed with substantial investment opportunities, most notably tourism, mining, commercial agriculture, and livestock-based production. It is strategically located between Lake Victoria and the vibrant city of Mwanza, and markets and materials in Tanzania, Kenya, and Uganda. However, despite the investment potential in the region, very few viable investments have been realized, which is illustrated by the fact that the Mara region remains one of the poorest regions in the country. The percent households below the income (basic needs) poverty line was estimated at 46% in 2001, with Bunda, Musoma Rural and Serengeti districts recording the highest rates of 68%, 64% and 61% respectively (URT 2005). The region's per capita income is Tshs. 946,107 (US$ 597.7) in 2012 (NBS, 2014). The region's annual GDP contribution to the national GDP was 3.5% in 2012 placing the region in the middle at 12^{th}among 25 Tanzania Mainland regions.

The majority of the data used in this analysis were collected from secondary sources (Table 1), with the minority of the data coming directly from primary sources. Much of the secondary data were collected from SGR offices, as well as from various GF Community Outreach Program Annual reports. Major data types included: number of tourist arrivals, tourist spending, staff salaries and wages, revenues and taxes paid and collected. Additionally, secondary data were obtained from the Tanzania Revenue Authority (TRA) district office; District Executive Director (DED) office and other government officials. Secondary data were collected not only from SGR and its associated companies, but also from Serengeti and Bunda districts, and from village and ward officials of the surveyed villages. Tax data were traced from TRA at Mugumu district office. National data on tourist arrivals, spending and earnings were collected from the Ministry of Natural Resources and Tourism various reports.

For simplicity, SGR comprises four companies; the Grumeti Reserves Ltd, Grumeti Construction, Grumeti Air, and the Grumeti Community and Wildlife Conservation Fund Company Ltd (the "Grumeti Fund"). However, for the purpose of this study, the analysis concentrates much on the impacts of SGR/GF tourism investments and community outreach programs. The companies have partnered together with Grumeti Reserves operating tourism activities and investment and Grumeti Fund carrying out wildlife and natural resources conservation activities in order to promote sustainable tourism development in the Grumeti area. From 2003 to 2011 the combined financial contributions total TZS 126 billion (US $100.92 Million) including lodge construction and management, as well as community development and environmental projects in Serengeti and Bunda Districts in Mara region.

SGR has invested in long-term tourism and land rights as well as support services to facilitate tourism goods and services in the Grumeti Reserve area. The company operated five distinct, 5-star luxury travel products and world renowned safari lodges; namely Sasakwa Lodge, Sabora Tented Camp, Faru Faru Lodge, Explorer Mobile Tented Camp and Serengeti House that are distributed across the Grumeti Reserve concession. The company also operated the Mara River Camp located in the northern banks of the Mara River in the Lamai triangle (an area celebrated for its annual wildebeest migration crossings).

SGR is a textbook example of operating a "high-value low-volume" tourism model. This is in line with the Tanzania National Tourism Policy (URT, 1999). This model of tourism is preferred because the smaller volumes of visitors have lesser impact on both local culture and natural resources, while still generating significant income. The people living outside protected areas experience the economic benefits of nature-based tourism which can provide important economic incentives for local communities. There is high per-visitor expenditure with relatively little consumption of natural and government resources, and the visitors experience a more exclusive safari. Consumers of high-value low-volume tourism are more dedicated travelers, and demand in this market is less volatile (World Bank Group, 2015).

The Grumeti Community & Wildlife Conservation Fund Company Ltd (the Grumeti Fund), is a non-profit organization operating as a legal entity since 2004. During this study, the Fund was composed of three

departments: Ecological Management, Community Outreach, and Research and Monitoring. The community outreach program (COP) was mainly responsible for the management and supervision of community-outreach development programs and activities; whereas the Department of Ecological Management (DEM) was responsible for the anti-poaching activities and wildlife and natural resource conservation. The Research and Monitoring Department gathered critical information for DEM and COP, as well as coordinated research activities with partners. The Fund promoted sustainable economic development, environmental protection, education, capacity building and welfare improvement for the local communities. The Fund operated in 21 villages along the northern border of Ikorongo and Grumeti Game Reserves (IGGR) and the Ikona Wildlife Management Area (WMA).

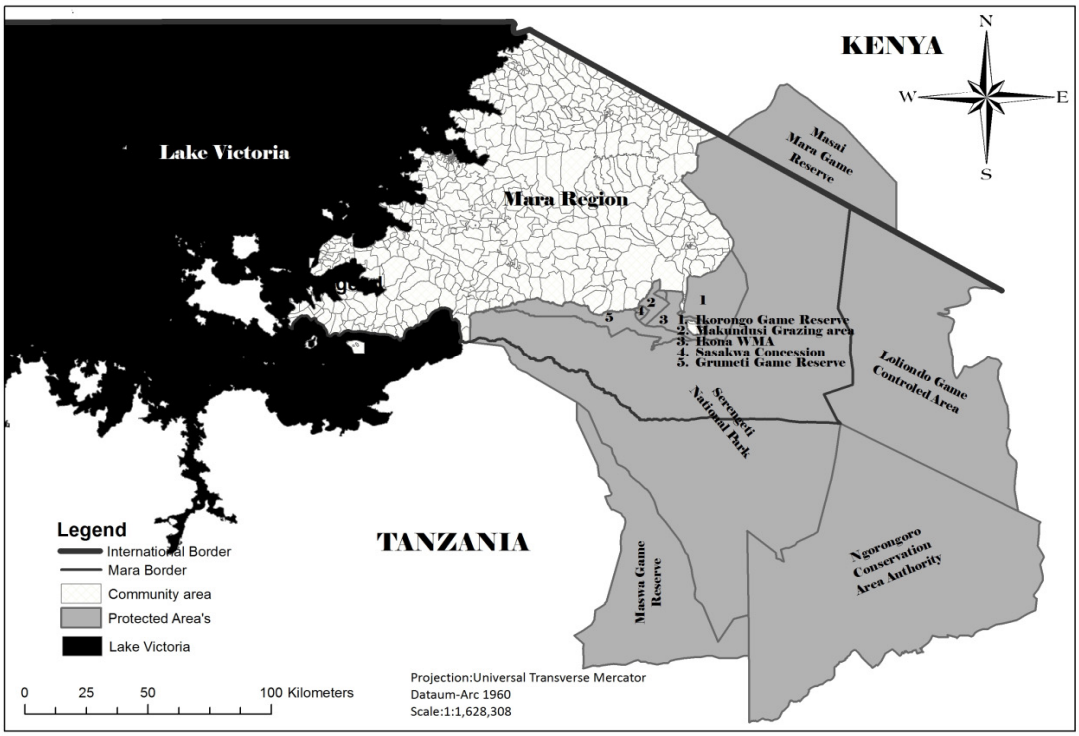

Figure 2. Mara Region and associated protected areas and community lands. The Singita Grumeti Reserves operate across the protected area network identified by the areas with numbers 1-5

The Fund worked in partnership with various stakeholders, including the Ministry of Natural Resources and Tourism (in particular the Wildlife Division and the Ikona Wildlife Management Areas), as well as Regional and District authorities and other government organizations involved in wildlife management. Similarly, they worked with local communities and individuals living on lands contiguous to the protected areas to reduce threats to wildlife and their habitat, while recognizing the contribution and the importance of the wildlife and natural resources to the wellbeing and future livelihoods of the local communities. The Fund provided conservation education not only to the young generation of future leaders, but also to those who are today the main players in a slowly growing and developing economy.

3.2 Theoretical and Analytical Framework

Tourism affects the economy in various ways; it can contribute to the changes in sales, employment opportunities, tax revenues, income, capital investment, social and cultural structure and environment in a region. In general, the contribution of tourism to economic development is determined by estimating the changes in economic activity within a region resulting from one action. In economic theory tourism is viewed as an invisible economic export sector or activity exporting goods and services to the foreign country from which the tourists originate; this contributes to the balance of payments accounts of the host country (Chowdhury and Shahriar, 2012; Ardahaey, 2011; Samimi et al., 2011; Padure and Turtureanu, 2005; Luvanga and Shitundu, 2003; Brohman, 1996).

A standard economic impact analysis of tourism on economic development measures the effects of tourism activities on the amount of income, output, employment, government revenue, and import generated by the injection of money into the economy by new tourism activities as a result of direct and secondary effects of tourists spending (Chowdhury and Shahriar, 2012; Ardahaey, 2011; Mayer et al., 2010). This involves tracing the flow of money from tourism spending, first to businesses (industries) and government agencies where tourists spend their money and then to other businesses supplying goods and services to tourist businesses, such as households earning income by working in tourism or supporting industries and government through various taxes and charges on tourists, businesses and households. This is premised on the assumption that initial round tourist expenditure triggers a series of repeated rounds of spending, thus creating indirect effects of the initial injection in supplying industries as well as other induced consumption.

According to Mbaiwa (2003), tourism contributes to economic development both at the macro and micro level. At the macroeconomic level, the growth of tourism contributes to gross domestic product (GDP). The development of the sector also contributes to government revenues in form of import duties, taxes, and license and user fees and plays an important role in promoting economic activities. Tourism also can contribute significantly to foreign exchange earnings and employment. At the micro level, tourism development leads to the establishment of various tourism initiatives which contribute to income generation and employment of the local people.

Tourism has far-reaching implications for natural resources if well managed and controlled; especially in developing countries (Trojos and Chiang, 2009; Kiss, 2004). It is a means of supporting biodiversity conservation by reducing local threats to biodiversity, such as expanding agriculture, unsustainable harvesting of wild plants and animals, and killing wildlife that threatens people's crops and their livestock or themselves. According to Mbaiwa (2003), tourism has a potential of being a renewable industry, where natural resource integrity is maintained or enhanced. This assumes that tourism depends on maintaining attractive natural landscapes and rich flora and fauna, thus helping communities earn money from tourism which provides both an incentive for conservation and an economic alternative to destructive activities (Kiss, 2004). On the other hand, if not well managed and controlled tourism can contribute to adverse impacts. It is argued that tourism contains the seeds of its own destruction, in the sense that it can destroy itself by damaging the very environmental attraction which tourists come to a location to experience. Most tourism development places additional pressure on the environmental resources upon which it is based, compromising the future prospects of the local population and the expectations of tourists themselves.

Tourism can also influence an economy in a host region through its development activities in the form of capital investment, especially massive expansion of infrastructure and game parks for supporting the growing tourism industry (Mayer et al., 2010; Mbaiwa, 2003; Binns and Nel, 2002; Milne and Ateljevic, 2001). Tourism led-development has the potential of significantly contributing to the economy of a country, especially infrastructure development such as the construction of roads, airports, hotels and safari camps to facilitate the tourism industry. For example, infrastructure development can facilitate easy movement of mobile and self-drive tourists into tourist areas as well as promote the quick delivery of tourist supplies to these same areas, which increases accessibility to the general population as well.

3.3 Data Analysis

This study involved both the qualitative and quantitative data analyses to understand the economic impact of this rural tourism investment. Qualitative analysis was conducted to summarize information in table, graphs, means, and percentages. The quantitative data collected was mainly used to assess the impact and the contribution of SGR tourist spending and re-spending on Mara regional income. The study also relied on economic models to estimate the multiplier effects of tourist spending on the regional income. Additionally, the study analyzed the contribution of GF community outreach development programs to local economic development to communities along the Grumeti and Ikorongo Game reserves and Ikona WMA area.

Studies on economic impact of tourism spending or activities on the economy rely on the use of input-output and computable general equilibrium modeling. These models, however, require data about sectoral supply linkages between firms (Mayer et al., 2011; Polo and Valle, 2008; Kweka et al., 2003). In this study, it was not possible to disaggregated data by sectors nor was the interrelationship among sectors possible to evaluate. In addition, this study focused on the combined impact of for-profit tourism investment and non-profit conservation and community development activities. In this circumstance, when disaggregation is not possible, Walpole and Goodwin (2000) argue that it is possible to construct the model entirely based on mix of survey and secondary data. According to Lahr (1993), such analysis is referred to as the hybrid input-output model. Based on the

limited applicability of input-output model for our study, the Keynesian multiplier approach was invoked instead (Armstrong and Tylor, 2000; Archer and Fletcher, 1996). The most common Keynesian multiplier is the income multiplier which captures the amount of income generated in the economy as a result of an additional unit of tourist expenditure (Archer, 1984 as cited by Mayer et al., 2010; Hjerpe and Kim, 2007). However, the region income calculated here comprises only the direct and indirect income-it is not the gross regional income as it does not comprise the induced effects from household spending resulting from the spending of their paid salaries and wages and income from their investment as part of the induced effects of tourist spending.

We adopted this recursive approach used by Mayer, et al. (2010), to calculate the impact of tourism on the economy in different national parks in Germany. This approach allows estimating the economic impact of tourism to a specific area and/or region, which in this case is one company's investment in specific tourism activities in a small remote area in Mara region. The data used to calculate and estimate the economic impact of SGR and GF tourism investment activities are summarized in Appendix 1.

This approach computed the annual economic regional income denoted by ***RI*** of SGR tourism investments and GF conservation and community development activities recursively as follows:

Gross tourist spending (TS^g)

$$TS^g = NT \sum_{s=1}^{k} MDE_s \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (1)$$

Where *NT* is the total number of tourist days per year, *MDE* is the mean daily expenditure per visitor and *n* denotes the different sectors of economy or sub-sectors of a sector (Note 1) (1, 2…, k)

Net tourist spending (TS^n)

$$TS^n = \sum_{n=1}^{k} (TS_s^g - VAT_s * NT * MDE_n) \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (2)$$

Where VATs is the value-added tax rate (18% is used as a tax rate) applicable to a different economic sector where SGR has invested.

Direct regional income (RI^d) from tourism spending

$$RI^d = \sum_{n=1}^{k} (TS_s^n \, dm_s^d) \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (3)$$

Where dm_s^d is the direct multiplier for sectors (Note 2), i.e. the proportion of income generated in a sector in the first round of the cash injection.

Indirect regional income (from tourism spending) $\boldsymbol{RI^i}$

$$RI^i = \sum_{s=1}^{k} (TS_s^n - RI_s^d) dm^i \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (4)$$

Where dm^i is a flat indirect multiplier (Note 3), equal for all sectors i.e. the proportion of income generated in a sector in the first round of the cash injection.

Total regional income (from tourism spending) ***RI***

$$\boldsymbol{RI = RI^d + RI^i} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (5.1)$$

If we substitute through the equations above we get

$$RI = \sum_{s=1}^{k} RT * MDE_s (1 - VAT_s)[\, dm_s^d + dm^i (1 - dm_s^d)] \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (5.2)$$

The total income multiplier (m) for a particular region then derives as

$$m = \sum_{s=1}^{k} (1 - VAT_s)[\, m_s^d + m^i(1 - m_s^d)] \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (5.3)$$

Substituting with the above terms we get:

$$RI = \sum NT * m \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (5.4)$$

We initially estimated the gross tourist spending, direct, indirect and regional income. We also estimated the percentages of income retained in the Mara region by taking the percentage share of direct, indirect and regional income in gross tourist spending. This provided a picture of the contribution of SGR tourist spending to the local economy or region. In order to assess the multiplier effects of SGR/GF tourist spending and community outreach development program on the overall region economy we used the following equation:

$$\boldsymbol{EconomicImpactoftouristspending} = NumberoftouristsxAveragespendingpervisitorxMultiplier \ldots\ldots \quad (6)$$

However, before we can estimate the above equation, it is important that we calculate the multiplier. This entails the assessment of the direct and indirect effects of tourist spending in the regional economy (Padure and Turtureanu, 2005). This is mainly aimed at tracing the flows of economic activity from tourists spending on households, other businesses and government. The type one multiplier can be computed as follows:

$$\boldsymbol{TypeImultiplier} = (direct + indirecteffects)/directeffects \ldots\ldots \quad (7)$$

The multiplier estimates the income flow in the economy. However, the estimated regional incomes, and multipliers, underestimate the economic impact of tourism in the region as they do not take into account the associated environmental impacts. In this study, that is specifically identified as biodiversity and wildlife conservation resulting from SGR/GF investments in natural resource management, protection and conservation.

4. Singita Grumeti Reserve Tourism Impacts

Communities surrounding IGGR are impacted directly and indirectly from these investments. This is based on the fact that tourism investments generate vast direct and indirect socio-economic and environmental benefits. This section presents the analysis of the impact of SGR tourism activities and subsequent socio-economic and environmental impacts.

4.1 Socio-economic Impacts of SGR Tourism

Tourism is considered as one of the tools for economic development. This is supported by evidence that tourism can be a catalyst for economic development by creating employment, generating exchange earnings and revenues, bringing balance of payments advantages, providing markets for the local produce and bringing important infrastructure developments that can benefit not only the tourists visiting the area or region, but also the surrounding local communities. The socio-economic impact of SGR tourism investment is analyzed by presenting the trends and the changes in revenue generation, foreign exchange earnings, and employment creation. Furthermore, the analysis describes the major infrastructure developments made by the GF as part of its Community Outreach Program (COP).

SGR tourism activities have generated significant revenues ranging from salaries, wages and other payment made to employees and contractors; taxes and fees in form of corporate income taxes, royalties, concession rents, services, customs and import duties; taxes on salaries of employees and social security contributions from employees and their employers; and locally purchased goods and services. Other sources of revenues include taxes on purchased vehicles; and electricity. In particular, salaries and wages as well as taxes and fees and total revenue generated have been increasing throughout the period under investigation, with the exception of 2009 and 2012, where there was a decline (Table 1). Total revenue generated increased dramatically from US$ 12,024,626.66 in 2006 to US$26,569,487.25 in 2013 (121% increase). Correspondingly, salaries and wages increased from US$10,718,497.72 in 2006 to US$ 22,012,665.06 in 2013 (105% increase); whereas, taxes and fees increased from US$ 1,306,128.94 to in 2006 to US$ 4,556,822.19 in 2013 (249% increase). The observed decline in 2009 is mainly attributed with the 2008 financial crisis which resulted in the decreased number of tourists.

Table 1. Trends and changes in revenue generated 2006-2013

Year	Salaries & Wages	% Change	Taxes &Fees	% Change	Total Revenue Generated	% Change
2006	10,718,497.70		1,306,128.90		12,024,626.70	
2007	15,307,441.10	42.8	1,680,737.60	28.7	16,988,178.60	41.3
2008	19,569,678.50	27.8	2,057,724.60	22.4	21,627,403.10	27.3
2009	14,511,093.70	-25.9	2,272,559.30	10.4	16,783,652.90	-22.4
2010	18,089,896.20	24.7	2,046,056. 40	-10.0	20,135,952.60	20.0
2011	20,235,032.60	11.9	2,943,271.70	43.9	23,178,304.20	15.1
2012	17,596,464.30	-13.0	3,108,269.10	5.6	20,704,733.30	-10.7
2013	22,012,665.10	25.1	4,556,822.20	46.6	26,569,487.30	28. 3

Source: SGR Data

The potential additionality of employment created by tourism depends on the degree of linkages between tourism and other sectors of the economy in the area or region. However, in the context of this study, employment created by SGR tourism activities was determined solely by looking at direct employment created within SGR (i.e., number of employees in SGR). We also looked at how SGR tourism activities have influenced establishment of tourist facilities and other related tourist attractions in SGR surrounding areas, such as camps, lodges, transport, wholesale and retail shops. The trends and changes in the direct employment created by SGR in term of the number of employees are shown in Table 2. Both permanent and casual employees have been considered. The figures in Table 2 indicate that the number of permanent employees have been increasing throughout the study period, whereas the number of casual laborers increased dramatically from 100 in 2011 to 180 in 2012 (80% increase), then plummeted sharply in 2013 to 125 from 180 in 2012 (30% decrease).

Table 2. Trends and change in employment creation 2006-2013

YEAR	Permanent Employees	% Change	Casual Employees	% Change
2006	229		30	
2007	378	65.1	40	33.3
2008	465	23.0	50	25.0
2009	501	7.7	100	100.0
2010	527	5.2	100	0
2011	594	12.7	100	0
2012	615	3.5	180	80.0
2013	678	10.2	125	-30.6

Source: SGR Data

4.2 Grumeti Fund Environmental Impacts

The environmental impact of tourism depends on how well it is managed. If well-managed and controlled, tourism is a means of supporting biodiversity conservation and provides incentive for conservation and an economic alternative to destructive activities. However, if not well managed and controlled, tourism can contribute to adverse impacts. Most tourism development places additional pressure on the environmental resources upon which it is based, compromising the future prospects of the local population and the expectations of tourists themselves.

There is ample evidence that following the establishment of SGR and GF in the Ikorongo and Grumeti Game Reserves (IGGR) and the Ikona WMA that there has been a dramatic decrease in the number of wildlife crimes and animals killed in the area (Table 3). The number of illegal wildlife crimes and traditional weapons caught has dramatically dropped from 481 and 6061 in 2006 to 266 and 1884 in 2013, respectively. This suggests that GF interventions have contributed to the efforts of addressing these illegal activities in the area. This is also

substantiated by the increasing trends and numbers of both herbivores and carnivores (See Table 4). However, it is recognized that without comparable information on the amount of effort expended across this time period, it is not possible to do more than correlate these trends. Nevertheless, the positive correlations suggest that the efforts by SGR and GF in addressing the problem have had a net positive impact in the area.

The decline in the number of illegal wildlife crimes and traditional weapons caught has in turn contributed to the restoration of natural resources and biodiversity conservation. This is reflected by the increase in biomass and the populations of both the predatory (carnivores) and herbivorous animals (See Table 4). This suggests that the Grumeti Fund's anti-poaching campaigns and activities have been effective in reducing the impact of poaching pressure on wildlife populations.

Table 3. Trend of wildlife crime incidents, animals killed and traditional weapons captured

Year	Wildlife Crime Incidents	Animals Killed	Traditional Weapons Captured
2003	147	238	1573
2004	330	824	4826
2005	342	325	3295
2006	481	1387	6160
2007	353	524	371
2008	300	395	2019
2009	315	278	1571
2010	271	406	2792
2011	361	216	2346
2012	238	213	848
2013	266	152	1884

Source: Grumeti Census Report, 2014 (Goodman, 2014).

Table 4 reveals that the resident herbivore biomass and wildlife animals have been increasing throughout the period of study (i.e. 2003-2013). This suggests that Grumeti Fund has contributed significantly to conservation of the wildlife, natural resources and biodiversity.

Table 4. Trends in resident herbivore biomass and resident wildlife population estimates in the SGR concession area

Year	Biomass Density (Kgs/Ha)	Buffalo	Eland	Elephant	Grants Gazelle	Giraffe	Cokes Hartebeest	Impala	Reed buck	Topi	Water buck	Hyena	Lion
2003	13	605	254	355	200	331	189	7147	1005	5705	212	435	5
2004	22	733	1090	744	205	668	259	9394	501	6587	498	209	29
2006	31	2248	1286	892	229	864	414	9967	706	10342	462	448	19
2007	32	3124	1211	629	263	880	469	10218	1557	11409	499	464	29
2008	38	3139	1996	770	248	890	507	11753	1690	11721	770	581	15
2009	40	3610	1692	876	301	738	453	11442	1311	11771	761	480	27
2010	39	3290	1871	743	344	716	470	8415	1315	13802	769	428	33
2011	37	3514	754	527	321	713	477	11942	785	16477	790	498	42
2012	41	5300	1231	873	171	411	231	9829	649	11194	661	318	84
2013	49	3873	2744	1236	414	901	350	13458	850	15738	685	334	70
2014	51	6002	1915	1320	484	876	560	14242	563	13497	685	463	95

Source: Grumeti Census Report, 2014 (Goodman, 2014).

5. Estimated Singita Grumeti Reserves Tourism Economic Impacts

The economic impact of SGR/GF tourism investments, activities and community outreach development programs as well as biodiversity and wildlife conservation on the Mara regional economy was estimated by calculating the gross tourist spending, and the direct, indirect and total regional income/output generated. Additionally, we estimated the percentage of direct, indirect and regional income retained (Note 4) from gross tourist spending as well as the percentage changes. The estimated economic impact of SGR tourism investment on the Mara region indicates that SGR tourism investments/activities have contributed substantially to income generation (Table 5).The direct, indirect and total income generated have been increasing throughout the period under investigation, with the exception of indirect and total Mara region income, which started to decline in 2011 from TZS 204,288,670.50 and TZS 457,787,468.00 to TZS 79,443,086.30 and TZS 403,829,363.30 in 2013 respectively.

In particular, substantial income has been retained in the regional economy in relation to tourist gross spending, as more than 20 percent has been retained as direct regional income for the period between 2008 and 2013 (Table 5). In addition, approximately 12 and 32 percent of the gross tourist spending has been retained as indirect and total regional income, respectively, during the same period. This suggests that more than a quarter of the tourist investment spending in the region is converted into regional income. Although we can't find a comparable study that would provide a direct comparison, we propose this represents a substantial proportion of income retained in the local economy or region that can contribute to generating growth of the regional economy. However, these estimates should be interpreted cautiously, as they may be overestimated or underestimated because the estimates do not exclude leakage resulting from imports and tourist spending outside the Mara region. Nevertheless, the estimates provide a relatively representative approximation of the economic impact of tourism investment made by a single tourism investment company and other related activities on a local area or region.

Table 5. Estimates of direct, indirect and regional income generated in the Mara region as a result SGR tourism investment from 2008 to 2013

Year	Gross Tourist Spending (Million TZS)	% Change	Direct Regional Income (Million TZS)	% change	% Retained as Direct Region Income	Indirect Regional Income (Million TZS)	% Change	% Retained as Indirect Region Income	Total Regional Income (Million TZS)	% Change	% Retained as Total Regional Income
2008	674.9		138.4		20.5	110.0		16.3	248.3		36.8
2009	818.9	17.6	167.9	17.6	20.5	81.3	-35.2	9.9	249.2	0.4	30.4
2010	871.8	6.1	178.7	6.1	20.5	108.9	25.3	12.5	287.7	13.4	33
2011	1,236.6	29.5	253.5	29.5	20.5	204.3	46.7	16.5	457.8	37.2	37
2012	1,517.5	18.5	311.1	18.5	20.5	149.5	-36.6	9.9	460.6	0.6	30.4
2013	1,582.4	4.1	324.4	4.1	20.5	79.4	-88.2	5	403.8	-14.1	25.5
Average	1,117.0		229.0		20.5	122.3		11.5	351.2		32.2

Sources: *Calculated from SGR Data*

This study was primarily concerned with estimating the multiplier effect of this investment in the Mara region (see Table 6 for multiplier estimates and Appendix 1 for the data used to generate these estimates). Our data reveal these multiplier effects ranged from the highest in 2008 (1.79) to lowest in 2013 (1.24).

Table 6. Estimated multiplier effect of SGR

YEAR	2008	2009	2010	2011	2012	2013	AVERAGE
Multiplier Type I	1.79	1.48	1.61	1.81	1.48	1.24	1.57

Sources: Estimated from *SGR Data (See Appendix 1)*

We compared these with other published studies of tourism multiplier effects (Table 7). It is notable that the lowest annual multiplier effect found in this study was higher than any of the multiplier effects found in all the other studies. The annual range in this study was between 1.4-2.1 times higher than the average of all the other studies (n=6). If the comparison of this study is restricted to the most recent and comparable multiplier effect studies, our results from the Mara region are between 1.9-2.8 times higher than those found in Tanzania (Kweka, 2003) and Kenya (Summary, 1986).

Table 7. Regional economic multiplier effects in Africa

Country	Multiplier Effect	Reference
Kenya	0.64	Summary (1986)
Tanzania	0.64	Kweka et al., (2003)
Tanzania	0.85	Curry (1986)
Seychelles	0.88	Archer and Fletcher (1996)
Mauritius	0.97	Archer and Fletcher (1990)
Egypt	1.23	Fletcher 1989

Our estimates illustrate that SGR tourism investments have had significant contributions to income generation in the Mara region. This result was contrary to expectations of Horvath and Frechtling (1999), who argue that multipliers are supposed to be lower in smaller regions which are not self-sufficient as they are prone to leakage out of the regional economy through importing goods and services to satisfy tourism demand. The SGR footprint is a relatively small area (about 347,000 acres, or 140,000 hectares) that represents approximately 15% of the Mara Region. However, the probable explanation to this exception is premised on the fact that SGR tourism investments are based on "high-value low-volume" tourism as compared to other tourism practiced in other areas.

6. Discussion

The tourism industry in Tanzania is still growing and will continue to grow if concerted efforts are put in place to promote the sector. It is also evident that the potential of the tourism industry in Tanzania is very promising given the vast available tourism attractions across the country. A recent study by the World Bank indicates that there are ample opportunities for tourism growth in Tanzania as long as the tourism model does not negatively impact the natural resources (World Bank Group, 2015). This implies that the contribution of tourism to the economy will also be substantial if a favorable investment and policy environment are sustained. This assertion is premised and substantiated by findings presented in this study. It is unequivocal that over the study period SGR tourism investment and GF conservation and community outreach development programs together have had significant and substantial contribution to communities surrounding Grumeti and Ikorongoro Game Reserves and the Mara regional economy. The major contributions that can be attributed to SGR tourism investments and GF community outreach development programs in Mara region span such broad sectors as socioeconomic development environmental conservation, income generation, and employment creation.

There are clear indications from the study findings that SGR/GF tourism investment and conservation and community outreach programs are pro-poor. This is based on the fact that together with tourism investment, GF has been implementing community outreach development programs that in one way or another are central in poverty reduction in the region. The Mara region, despite being endowed with potential investment opportunities, has attracted very limited investments to date. SGR and GF have made substantial investments in the region that are, in turn, creating an additional layer of investments not only in the Grumeti and Ikorogoro Game Reserve areas, but also in some neighboring regions. GF have been promoting and supporting a number of projects and programs including education, water supply, agriculture, small- and micro-enterprise development, low-cost and efficiency alternative sources of energy and protection and conservation of wildlife and natural resources. All these programs provide both direct and indirect contributions to poverty reduction in the region. Despite the large investment potential and opportunities in Mara region, very limited investments have been made to date by either the government or the private sector. In this context, SGR and GF have made substantial investments that, consequently, are significantly contributing to the region's economy. Anecdotal evidence suggests that some new business developments are emerging as a result of SGR/GF establishment, especially in Natta-Mbiso village. All

these together offer clear indications of the important contribution of SGR/GF investment activities have on poverty reduction in the region.

Based on the study findings, if current levels of investment are sustained, it is expected that SGR tourism and GF conservation and community activities will continue to contribute to the communities and the regional economy as whole. Whether such investments can continue on a sustainable basis is in question, as the cost of sustaining these activities is considerable. If private investments are able to persist in the long-term, and it is in the interest of the Tanzanian government that they continue, then it follows that incentives could be provided to encourage long-term persistence. The kind of tourism investments and community development interventions operated by SGR/GF incorporate social, economic and environmental issues, which are major components of sustainable development (Clulow and Walters, 2013; Teoh, 2014). In addition, SGR/GF embrace high-value low-volume tourism, which has the potential to be ecologically sustainable because of its minimal negative environmental impacts on wildlife areas in comparison to high-volume tourism, while also attempting to increase socioeconomic benefits (Bycroft et al., 2007; Baldacchino, 2006; Nautiyal et al., 2005).True adherence to these broad principles, and evidence that these principles are being practiced, has far-reaching potential implications for attracting more tourists revenues into the region.

The economic contribution of SGR/GF tourism investment to Mara region is significant, contrary to expectations. It is believed that the multiplier effects of tourism investments in relatively small areas will be low due to leakage of the investment into a much larger regional economy, as regional economies are not self-sufficient as there are some goods and services that are purchased or imported outside these regions (Horvath and Frechtling, 1999). As such, much of the income that would have to be retained in the region leaks out, leaving very small proportion remaining to have impact within the region. Comparing the multipliers from different studies, though conducted in different years and representing the entire sector as opposed to a single business tourism investment by SGR, the findings show that SGR tourism has a substantial impact in the Mara Region. Based on multiplier effect comparisons, the impact in the Mara Region from these investments are 2-3 times what have been recorded in other comparable studies in Tanzania and Kenya. The magnitude of this difference is remarkable, especially considering that they are underestimates, as they do not factor in the value of the positive environmental services obtained from the wildlife and habitat restoration efforts documented over the past 12 years.

Very limited economic investments have been made in the Mara Region, as it is among the poorest regions in the country. Nearly half of its 1.7 million people live below the poverty line. There is a need for supporting private investments in the region so that they can generate positive economic and social impacts necessary to reduce poverty and boost the economy of the region. SGR/GF also supports many different public initiatives. On top of these contributions, SGR/GF also pays a substantial amount of taxes to the local and central governments (see Table 1). For these reasons, we suggest that the government should find a ways of supporting private investments like SGR/GF so that they continue directly extending support to public initiatives and indirectly encouraging additional economic investment in the region. Such incentives could come in the form of tax exemptions or reduction of tax rates to promote continued and ultimately sustainable support for impoverished regions like the Mara. The significance of this impact is contrary to evidence that the government has not adequately delivered the basic goods and services needed in this poor region, particularly villages and communities surrounding Grumeti and Ikorongo Game Reserves. Therefore, economic investments combined with conservation and community development projects could become part of a government-led initiative designed to fill this gap of limited government services support in impoverished regions, such as the Mara Region.

However, these positive economic impacts do not fully incorporate all the benefits of this investment. Our analysis does not include a financial value of community development and natural resource protection, and therefore our multiplier effects represent a significant underestimate. In terms of GF activities, substantial supports has been provided to the communities, ranging from education services, business enterprise development, and water services just to mention a few. There are also significant improvements in natural resources and their associated ecosystem services, including the carbon capture that comes from habitat restoration. This additional carbon storage does have a value on the open market, but have not yet been realized and has not yet been factored into this study. This is another key benefit to high-value low-volume tourism as the revenue generated did not come at the expense of the natural resource base. It also demonstrates that foreign investment in tourism is staying in the country and having a positive economic impact.

7. Conclusion

Very limited empirical evidence exists on the economic impacts of high-value low-volume tourism investments.

This study contributes to the existing body of knowledge by quantifying the multiplier effect of a single private investment - SGR tourism investment and GF conservation and community activities- on a rural regional economy- the Mara Region in northern Tanzania.

The study has revealed that tourism investments can produce substantial benefits to the regional economy. The economic multiplier effects uncovered in this study are the highest of all relevant comparisons found in the literature, two to three times as large as other current and relevant regional studies. It is also clear that our multiplier effects are a gross underestimate, as they do not factor in the positive economic benefits of community development and improvement of natural resources provided by the non-profit Grumeti Fund. However, public perceptions of the benefits to individuals remain low. This perception is linked to misunderstandings of government policies as well as high poverty rates in the neighboring villages that provide a complex and challenging socioeconomic context for these efforts.

This study provides clear evidence that high-value low-volume tourism has a net positive economic impact on the Mara Region in Tanzania, which has important implications for national economic policy. That is, high-value low-volume tourism is an effective model as it can include wildlife and biodiversity conservation while at the same time investing in the principles of sustainable and equitable socioeconomic development. Therefore, in order to ensure greater economic investment in impoverished and underdeveloped regions of the country, we suggest that the government of Tanzania should encourage and support high-value low-volume tourism. The support could be tailored at providing incentives especially in terms of tax rate reduction or exemptions, as the benefit to the regional economy of this private investment appears far more important to an area where nearly half the people live below the poverty line than its relatively small contributions to the national tax base.

References

Al-Fedaghi, S. (2009).Interpretation of information processing regulations. *Journal of Software Engineering Applications, 2*, 67-76. http://dx.doi.org/10.4236/jsea.2009.22011

Archer, B. (1984). Economic impact: Misleading multiplier. *Annals Tourism Research, 11*(3), 517–518. http://dx.doi.org/10.1016/0160-7383(84)90038-0

Archer, B., & Fletcher, J. (1990). Multiplier analysis in tourism, Centre des Hautes Etudes Touristiques, Cahiers du tourisme, Series C, No. 103.

Archer, B., & Fletcher, J. (1996). The economic impact of tourism in the Seychelles. *Annals of Tourism Research, 23*(1), 32-47. http://dx.doi.org/10.1016/0160-7383(95)00041-0

Ardahaey, F. T. (2011).Economic Impact of Tourism Industry. *International Journal of Business and Management, 6*(8), 206-215.

Armstrong, H., & Taylor, J. (2000). *Regional Economics and Policy*. Blackwell, Oxford, UK.

Baldacchino, G. (2006). Warm versus Cold water Island Tourism: A Review of Policy Implications. *Island Studies Journal, 1*(2), 183-200.

Binns, T., & Nel, E. (2002). Tourism as a Local Development Strategy in South Africa. *The Geographical Journal, 168*(3), 235-247. http://dx.doi.org/10.1111/1475-4959.00051

Blanchard, B. (2004). *Logistics engineering and management* (6th ed.). Upper Saddle River, NJ: Prentice Hall.

Briassoulis, H. (1991). Methodological Issues: Tourism Input-Output Analysis. *Annals of Tourism Research, 18*, 485-495. http://dx.doi.org/10.1016/0160-7383(91)90054-F

Brohman, J. (1996). New Directions in Tourism for Third World Development. *Annals of Tourism Research, 23*(1), 48-70. http://dx.doi.org/10.1016/0160-7383(95)00043-7

Bycroft, P., Dyer, P., & Nash, D. (2007). Serious Business Beyond Tourism: Attracting Retaining High Value Low Impact Industries to Regional Economies. *Australian Journal of Regional Studies, 13*(2), 205-220.

Chowdhury, M. A. F., & Shahriar, F. M. (2012). The Impact of Tourism in a Deficit Economy: A Conceptual Model in Bangladesh Perspective. *Business Intelligence Journal, 5*(1), 163-168.

Clulow, V., & Walters, G. (2013). Issues in Sustainable Tourism. *The International Journal of Sustainability Policy and Practice, 8*(3), 11-19. http://dx.doi.org/10.18848/2325-1166/CGP/v08i03/55381

Curry, S. (1986). The economic impact of international tourism in the United Republic of Tanzania: An Input-output analysis. *Industry and Development, 19*, 55-75.

Fletcher, J. (1989). Input-output analysis and tourism impact studies. *Annals of Tourism Research, 16*(1),

514-529. http://dx.doi.org/10.1016/0160-7383(89)90006-6

Giorgini, P., Massacci, F., Mylopoulos, J., & Zannone, N. (2005).Modeling security requirements through ownership, permission and delegation. *International Journal of Information Security, 5*(4), 257-274. http://dx.doi.org/10.1007/s10207-006-0005-7

Goodman, P. S. (2014). *Large herbivore population estimates for the Grumeti Reserves – August 2014.* Grumeti Fund, Sasakwa, Serengeti District, Tanzania.

Hjerpe, E. E., & Kim, Y. S. (2007). Regional economic impacts of Grand Canyon river runners. *Journal of Environmental Management, 85*(1), 137–149. http://dx.doi.org/10.1016/j.jenvman.2006.08.012

Horvath, E., & Frechtling, D. C. (1999). Estimating the Multiplier Effects of Tourism Expenditures on a Local Economy through a Regional Input-Output Model. *Journal of Traveo Research, 37*(4), 324-332. http://dx.doi.org/10.1177/004728759903700402

Kiss, A. (2004). Is Community-based eco-tourism a good use of Biodiversity Conservation Funds? *TREND in Ecology and Evolution, 19*(5), 232-237. http://dx.doi.org/10.1016/j.tree.2004.03.010

Lahr, M. L. (1993). A review of literature supporting the hybrid approach to constructing regional input-output models. *Economic Systems Research, 5*, 277-293. http://dx.doi.org/10.1080/09535319300000023

Leedy, P., & Ormrod, J. (2004). *Practical research: planning and design*. Upper Saddle River, NJ: Prentice Hall.

Lindberg, K., & Johnson, R. L. (1997). The Economic Values of Tourism's Social Impacts. *Annals of Tourism Research, 24*(1), 90-116. http://dx.doi.org/10.1016/S0160-7383(96)00033-3

Luvanda, N., & Shitundu, J. (2003). *The Role of Tourism in Poverty Alleviation in Tanzania* (Research Report No. o3.4). Dar es Salaam: Research on Poverty Alleviation.

Lwoga, N. B. (2013). Tourism Development in Tanzania before and after Independence: Sustainability Perspectives. *The Eastern African Journal of Hospitality, Leisure and Tourism, 1*(2), 1-26.

Mariki, S. B., Hassan, S. N., Maganga, S. L. S., Modest, R. B., & Salehe, F. S. (2011). Wildlife-Based Domestic Tourism in Tanzania: Experiences from Northern Tourist Circuit. *Ethiopian Journal of Environmental Studies and Management, 4*(4), 62-73.

May, M., Gunter, C., & Lee, I. (2006). Privacy APIs: access control techniques to analyze and verify legal privacy policies, 19th IEEE Workshop Security foundations, 85–97. http://dx.doi.org/10.1109/csfw.2006.24

Mayer, M., Müller, M., Woltering M., Arnegger, J., & Job, H. (2010). The economic impact of tourism in six German national parks. *Landscape and Urban Planning, 97*, 73-82. http://dx.doi.org/10.1016/j.landurbplan.2010.04.013

Mbaiwa, J. E. (2003). The Socio-economic and Environmental Impacts of Tourism Development on the Okavango Delta, North-western Botswana. *Journal of Arid Environments, 54*, 447-467. http://dx.doi.org/10.1006/jare.2002.1101

McDonald, J. (2009). Complexity science: an alternative world view for understanding sustainable tourism development. *Journal of Sustainable Tourism, 17*(4), 455–471. http://dx.doi.org/10.1080/09669580802495709

Milne, S., & Ateljevic, I. (2001). Tourism, Economic Development and the Global-Local Nexus: Theory Embracing Complexity. *Tourism Geographies, 3*(4), 369-393. http://dx.doi.org/10.1080/146166800110070478

Muganda, M., Sirima, A., & Marwa, P. E. (2013). The Role of Local Communities in Tourism Development: Grassroots Perspectives from Tanzania. *Journal of Human Ecology, 41*(1), 53-66.

Nautiyal, S., Rajan, K. S., & Shibasaki, R. (2005). Interaction of Biodiversity and Economic Welfare-A Case Study from the Himalayas of India. *Journal of Environmental Informatics, 6*(2), 111-119. http://dx.doi.org/10.3808/jei.200500061

NBS. (2014). *National Accounts of Tanzania Mainland, 2001-2013*. National Bureau of Statistics, Ministry of Finance, Dar es Salaam, Tanzania.

Padure, G., & Turtureanu, I. A. (2005). Economic Impact of Tourism. *Economica, 1*, 129-140.

Polo, C., & Valle, E. (2008). A general equilibrium assessment of the impact of a fall in tourism under alternative closure rules: The case of the Balearic Islands. *International Regional Science Review, 31*(1), 3–34.

http://dx.doi.org/10.1177/0160017607309448

Salazar, N. B. (2009). A Troubled Past, A Challenging Present and Promising Future: Tanzania's Tourism Development Perspective. *Tourism Review International, 12*, 1-14.

Samimi, A. J., Sadeghi, S., & Sadeghi, S. (2011). Tourism and Economic Growth in Developing countries: P-VAR Approach. *Middle-East Journal of Scientific Research, 10*(1), 28-32.

Sindiga, I. (1999). *Tourism and African Development: Change and Challenges of Tourism in Kenya*. Aldershot: Ashgate.

Summary. (1987). Tourism Contribution in the Economy of Kenya. *Annals of Tourism Research, 14*, 531-540

Teoh, S. (2014). The 'Governmentality' Approach to the Business of Sustainable Tourism Development: Bhutan's Tourism Governance, Policy and Planning, Paper presented at the Business of Sustainable Tourism Symposium, Curtin University.

Trejos, B., & Chiang, L. N. (2009). Local Economic Linkages to Community-based Tourism in Rural Costa Rica. *Singapore Journal of Tropical Geography, 30*, 373-387. http://dx.doi.org/10.1111/j.1467-9493.2009.00375.x

URT. (1999). National Tourism Policy, Ministry of Natural Resources and Tourism, Dar es Salaam, Tanzania

URT. (2005). *Poverty and Human Development Report 2005*. Mkuki na Nyota Publisher, Dar es Salaam, Tanzania.

URT. (2007). *Poverty and Human Development Report 2007*. Mkuki na Nyota Publisher, Dar es Salaam, Tanzania.

URT. (2011). *The Economic Survey, 2011*. President's Office, Planning Commission, Published by Kiuta, Dar es Salaam, Tanzania.

URT. (2012). *Poverty and Human Development Report 2011*. Dar es Salaam, Tanzania.

URT. (2013). *The Economic Survey, 2012*. Ministry of Finance, Dar es Salaam, Tanzania

Wade, D. J., Mwasaga, B. C., & Eagles, P. F. J. (2001). A history and market analysis of tourism in Tanzania. *Tourism Management, 22*, 93-101. http://dx.doi.org/10.1016/S0261-5177(00)00019-4

Walpole, M. J., & Goodwin, H. J. (2000). Local Economic Impacts of Dragon Tourism in Indonesia. *Annals of Tourism Research, 27*(3), 559-576. http://dx.doi.org/10.1016/S0160-7383(99)00088-2

World Bank Group. (2015). Tanzania's Tourism Futures: Harnessing Natural Assets. Environment and Natural Resources Global Practice Policy Note. World Bank Group Report Number 96150-TZ, Washington, DC.

Appendix 1. SGR data and estimated income

YEAR	2008	2009	2010	2011	2012	2013
Number of Tourists (NT)	5,433	6,890	7,287	8,750	13,446	14,185
Tourist Expenditure (TE billion Ths)	8.1	9.0	9.6	12.4	15.2	19.0
Mean daily Expenditure (MDE Million Tsh)	1.5	1.3	1.3	1.4	1.1	1.3
Tourist Average Number of Days (TAD)	12	11	11	10	10	12
Average Spending/Day (ASD-'000' TS)	124.2	118.9	119.6	141.3	112.9	111.6
Gross Tourist Spending (TS million Tsh)	674.9	818.9	871.8	1,236.6	1,517.5	1,582.4
SGR/GF VAT (VAT rate is taken is 18% million TS)	19.6	25.4	28.1	28.1	57.2	59.0
NET Tourist Spending (TS-Million Tsh)	553.4	671.5	714.9	1,014.0	1,244.4	1,297.6
Direct Regional Income (RI-million Tsh)	138.4	167.9	178.7	253.5	311.1	324.4
SGR Cost of Sales (Billion Tsh)	2.1	1.5	2.0	3.3	2.4	1.6
Cost of Capital (ratio of Cost of Sales and Tourist Expenditure)	0.3	0.2	0.2	0.3	0.2	0.1
Indirect Regional Income (Million Tsh)	120.0	81.3	108.9	204.3	149.5	79.4
Total Regional Income (Direct + Indirect Income Million Tsh)	248.3	249.2	287.7	457.8	460.6	403.8

Notes

Note 1. The sector in this context is defined as the sector or sub-sector of the SGR tourism investment activities such as SPA, Food & Beverages; Accommodation; etc.

Note 2. This is taken as the ¼ of the total direct income generated by the four sectors, namely; SPA, accommodation, food & beverages, & others as disaggregated in the data collected from SGR Finance Department Office.

Note 3. This is taken as the percentage contribution by each sector to the total income generated.

Note 4. Income retained is estimated as a proportion of the income to gross tourist spending.