

# LIFE Red Sea Project

ENHANCING SUSTAINABLE TOURISM IN THE SOUTHERN RED SEA REGION OF EGYPT

Part 4: Comparative Economic Impact Analysis of Traditional versus Sustainable Resort Development in the Southern Red Sea Region of Egypt

**MARCH 2008** 

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### Disclaimer

The Author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

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### **ACRONYMS AND ABBREVIATIONS**

CDC	Community Design Collaborative
cm	Centimeter
EEAA	Egyptian Environmental Affairs Agency
km <sup>2</sup>	square kilometers
LIFE	Livelihood and Income from the Environment (project)
LRS	LIFE Red Sea Project
m	Meters
MW	Megawatt
NGO	Non-governmental Organization
PVC	Polyvinyl Chloride
RSG	Red Sea Governorate
SFO	Single Family Occupancy
SRO	Single Resident Occupancy
SRS	Southern Red Sea (region)
SWM	Solid Waste Management
TDA	Tourism Development Authority
UNESCO	United Nations Educational, Scientific, and Cultural Organization
USAID	United States Agency for International Development
WGNP	Wadi el-Gemal National Park

### INTRODUCTION

### PURPOSE OF THE STUDY

Compare the estimated economic impacts of traditional mass-market resort development vs. environmentally sustainable, community-focused, up-market development ("Ecoresorts") in the Southern Red Sea Region (SRSR).

In simplified terms, the aim of this study is to compare, for each model:

- Direct Impacts Jobs created and income generated by resorts
- **Indirect Impacts** Jobs created and income generated by suppliers to the resort industry (business expenditures).
- **Induced Impacts** –Jobs created and income generated from expenditures by employees of resorts and resort industry suppliers in the local economy (household expenditures).

### METHODOLOGY

**Economic Impact Analysis (EIA)**– An estimate of the extent to which an economic activity contributes to the economic development (jobs, income, tax revenues, etc.) of a defined area of study (SRSR).

EAI estimates the income earned and jobs created from a given activity (tourist spending), how much of that income is spent locally, and how long those expenditures circulate within an economy before being **exported** for the purchase of goods and services produced elsewhere.

For example, if a hotel guest pays \$100 for a one-night stay at a Red Sea Resort, some of that income will be used to pay hotel employee salaries. A portion of those wages will then be spent by employees to buy food from the local grocer. The grocer will buy some of its products from local farmers, who will in turn use part of that income to buy fertilizer.

While that dollar or pound of income can in theory circulate indefinitely (and the larger and more integrated the economic area, the greater the number of rounds of spending), in reality **leakages** occur, through the purchase of goods and services produced outside the area.

A local economy's ability to minimize leakages defines the **economic multipliers** that are used to estimate indirect and induced impacts (together referred to as "secondary impacts"), and are a critical component of the total economic impact of a given industry or activity.

There are a number of methods used to define multipliers. The most common is an

**Input-Output Model,** a mathematical translation of an **Input-Output Table**, a matrix which depicts the inter-relationships between different sectors of an economy and measures the relative contribution (in terms of wages, profits, rents, etc.) of each to total output.

The major drawback of this approach is that it requires tremendous amounts of detailed data to produce an Input-Output table. In most developing countries this level of detail is not available for the tourism industry (it is generally lumped into a broader "Services" category.)

Given the lack of a sufficiently detailed Input-Output Table for Egypt, let alone the Red Sea region, we have used a modified approach that estimates appropriate multipliers from a mix of:

• Data collected through surveys of existing resorts in the SRSR

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- Case studies and surveys of ecoresorts, both within and outside Egypt, that closely match the proposed model
- An analysis of economic multipliers used in other destinations with similar characteristics (e.g., rural, remote resort areas).

Economic multipliers for tourism spending tend to range between 1.1 and 1.9, depending upon size and degree of development of the study area, i.e., larger and more developed economies tend to have fewer leakages and thus have higher multipliers and receive greater economic benefits from visitor spending.

For example, an employment multiplier of 1.3 would mean that for every 100 jobs created by a resort, 30 jobs would be created ( $100 \ge 1.3$ ) by backward-linked suppliers to that industry (indirect impacts) and from household expenditures by employee of hotels and suppliers (induced impacts).

In a study area where most supplies are imported (e.g., from the Nile Valley), or where employees migrate from other areas and remit most of their wages back to their region of origin (e.g., Nile Valley), employment and other multipliers will tend to be fairly low.

An economy's ability to retain spending (reduce leakages) also affects **economic ratios**, measures used to estimate the impacts of visitor spending in terms of jobs, income, profits, taxes, value added, etc. For example, existing hotels surveyed in the study area earned 51.2 million euros in 2006 and employed 3,377 persons, yielding a ratio of 65 jobs created for every 1 million euros in revenues.

These ratios can be calculated for both direct and secondary impacts, and are a primary tool used in conducting our analysis of visitor spending.

There are other non-economic ratios that can be used both to estimate impacts and verify the findings derived from other estimating techniques, e.g., the number of employees per room for different classes and types of hotels.

For example, from our survey of existing hotels, an estimated that 97 percent of employees in the SRSR are recruited from outside the region. The study "<u>Measuring and Reporting the Impacts of Tourism on Poverty</u> estimated that Red Sea "migrant" hotel employees remit an average of 63 percent of wages back to in the Nile Valley. This is a common pattern for traditional resorts located in remote rural areas.

Ecoresorts exhibit a quite different pattern. For the types of ecoresorts proposed, employing local residents is a core objective and component of efforts to support local community development. In the ecoresort case studies included in this analysis, more than 70 percent of employees are from local communities. The economic impact of wages earned by ecoresort employees therefore tend to have a much more significant impact on the local economy (larger multiplier).

Another critical component in estimating secondary impacts is the **capture rate**. While the local economy tends to capture most visitor spending on *services* (guided tours, meals at restaurants, etc.), the share of income generated through the purchase of *goods* is equal only to the margin or profit earned by retailers and wholesalers (if they are located within the study area), plus the percentage of those goods produced locally. The greater the percentage of goods imported, and the lower the local content, the lower the capture rate the impact of visitor and employee spending.

The ecoresort model presented also has as a core value the purchase of, and in many cases assistance in production of (through training, technical assistance, and access to credit) local inputs. This approach significantly increases the impact of visitor spending on local communities and economies.

In summary, the purpose of this study is to answer two fundamental questions:

- How much economic benefit can be derived from development of sustainable, up-market, community-based tourism - ecoresorts.
- How does that level of benefits compare to the economic impacts that would result from the • current model - traditional, mass-market resort development.

There are, of course, a number of other factors that should be evaluated in determining which of these alternative development approaches should be pursued, including the social, cultural, and environmental impacts. This study focuses exclusively on economic impacts.

### **DATA SOURCES**

A survey of and interviews with existing resort hotels in the SRSR. Of 33 hotels currently in operation, 13 participated in the survey and included a mix of 5-star (3), 4-star (9) and 3-star (1) hotels.

A survey of and interviews with six ecoresorts operating in Egypt and other countries and regions (2 in Egypt, I in Dubai, 2 in the Caribbean, and 1 in Australia).

Secondary data (prior studies and desk research).

A review and analysis of hotel and tourism economic impact studies and multipliers used in similar studies for destinations with similar characteristics. In total more than 40 reports and studies were reviewed.

Based upon the above analysis we are confident the assumptions used in this study are fair and reasonable.

### ASSUMPTIONS

The Traditional mass-market resort model is an average profile of the existing hotels in the study area that participated in the survey.

The Ecoresort model used, based on the profiles of ecoresorts interviewed in and outside Egypt is an up-market model, with high average daily rates and higher levels of expenditures outside the hotel than guests of mass market resorts (i.e., the proposed model is not focused on the development of budget eco-accommodations geared toward backpackers and other low spending demographics).

This analysis looks only at impacts from resort operations. It does not include construction impacts, which are short term in nature and typically only included when the decision is between development vs. no development, not different types of development.

### MODEL ASSUMPTIONS

The Ecoresort model proposes a total of 300 rooms within the study area. There would be a mix of quality levels and price points, from small, very exclusive, luxury accommodations, with rates as high as 800-1,000 euros per room per night, to larger, more affordable accommodations with average rates of 200 euros per night, which is the range included within our survey of Ecoresorts. Enhancing Sustainable Tourism in the Southern Red Sea Region of Egypt 3 The average rate per guest per night used in this model is 230 euros, or roughly 437 euros per room per night.

The Traditional Resort model projects a total of 2,000 rooms would be built. There would be mix of quality levels (3,4, and 5 star). Average rates would range between 37-125 euros per night, which is the range exhibited in our survey of existing hotels. The average rate per person, per night, is 33.5 euros, or an average daily rate of 67 euros per night, which match the average pre-room and per-person rates estimated through our survey of existing hotels.

Ecoresort guests are more highly educated, have more interest in the nature, culture and history of destinations they visit, have higher household incomes, and spend more per day across expenditure categories, including food and beverage, guided tours and entertainment, handicrafts and souvenirs, and other expenditures than guests of Traditional resort guests.

A higher percentage of Ecoresorts and Ecoresort guests will book rooms on a half-board or breakfast-only basis, and therefore will spend more in local restaurants and bars per day than traditional resort guests. Most traditional resorts in the Red Sea region are sold on an allinclusive basis. Recent studies estimate that large all-inclusive resorts have 50 percent higher leakages than hotels where some meals and activities are not included.

### RESULTS

From the results of surveys, Ecoresorts hire roughly double the number of employees per room as Traditional mass-market resorts. They also have a much higher propensity to employ people from local communities. For the 13 hotels surveyed in the study area, only 3 percent of employees are from within the region, vs. 70 percent for Ecoresorts.

Ecoresorts also make extensive efforts to purchase, and in some cases assist in the production of local inputs, both for construction and operation. Ecoresorts surveyed purchase 30-50 percent of inputs locally. Traditional resorts surveyed purchase 0% of inputs locally.

In summary, for every expenditure category studied, Ecoresorts and Ecoresort guests have a much higher propensity to spend money within local communities, and to spend more overall. In short, the economic impacts of Ecoresorts on the local communities and regions in which they operate are exponentially larger, on a per guest or room basis, that Traditional mass-market resorts.

### **REALITY CHECK**

There is, in our view, significant potential within the Southern Red Sea area for the type of lowimpact, up-market, community-focused resort development proposed here. Exploiting that potential will, however, required significant technical assistance efforts (training, capacity building, access to credit), focused primarily on local communities.

There are investors in Egypt interested in pursuing this type of development, but to be successful it will require a different approach to land planning. Densities will need to be significantly lower and design and architectural guidelines would need to be implemented. A 40-room ecoresort with  $\notin$  500 per night rates cannot be built 500 meters down the beach from a  $\notin$  40 per night mass-market resort.

In discussing local communities that would benefit from this type of development, it is important to define the boundaries of those communities. People living within the Wadi Gimal Protected Area number only about 2,000, meaning the available workforce is likely less than 250 people (primarily working-age men).

Assuming all of them would be interested in working in an ecoresort (an unlikely scenario), the total number of rooms that could be supported would be 125. Thus the definition of "local community" likely needs to include Marsa Alam and other nearby population centers.

### SUMMARY AND CONCLUSION

The current mass-market resort development model has very little positive economic impact on Red Sea communities. Nearly all of the inputs (labor, capital, goods and services) required for the operation of these resorts are imported from the Nile Valley and most hotel guests never venture out beyond the walls of all-inclusive resorts.

While there are benefits from this model to Egypt as a whole, those benefits are quite small relative to the investment required for hotel construction, roads, water, waste treatment, and electricity.

Hotels currently operating in the region operate on very thin profit margins, and a significant share of those profits are retained in source markets, by the foreign tour operators who book virtually all of the room nights in these hotels.

There is an alternative model that can be used to promote local economic development that will require much less significant investment in infrastructure and help the Red Sea region and Egypt retain more of the benefits of tourism investment and spending.

This model will also help to diversify the market base for Red Sea tourism and reduce pressures on existing hotels to block-book most of their inventory through foreign tour operators, at very low prices.

Not discussed in this report are the potential impacts on existing hotels of doubling the room supply of mass-market resorts, and the likely effect that would have on prices, occupancies, and profitability.

The lower-density approach will also help to reduce pressures on the natural resources that are the foundation of Red Sea tourism and an important part of Egypt's environmental heritage.

In this analysis, for example, roughly 27,000 ecoresort guests per year (300 rooms, average length of stay of 5 nights) would produce the same level of direct spending, and significantly more local jobs and economic impacts than 180,000 mass-market resort guests (2,000 rooms, 5 night stay).

There is little doubt that environmental resources are being degraded by mass-market tourism development. The most important impacts are to the Egyptian Red Sea coast's coral reefs. The principal sources of degradation include:

**Suspension of fine sediments.** From dredge and fill operations, creation of artificial lagoons, construction of large marine structures, and mining and quarrying. These suspended particles have damaged not only coral reefs, but also sea grass beds, mangroves, and other marine life (i.e., the entire food chain).

**Untreated or poorly treated liquid waste.** While most large hotels have their own package plants, treated effluents are sometimes discharged into the sea. Significant coral reef damage is has already occurred in a number of areas along the Red Sea coast.

**Desalinization operations.** Most of the fresh water for resort hotels is produced through desalinization. The waste product from this process is brine with a very heavy concentrations of salt and other minerals. This spent brine has been proven to cause damage to or kill coral reefs.

**Tourist activities.** While the impact from individual operations, including diving, boating, do not have a significant impact, the cumulative impact from millions of tourists participating in marine-based activities each year undoubtedly leads to reef degradation. Enhancing Sustainable Tourism in the Southern Red Sea Region of Egypt

Left unchecked, these environmental pressures will eventually destroy the marine resource base and leave the country with no alternative development approaches.

The lower density, lower impact approach modeled here would yield significantly less negative environmental impacts per dollar or pound of tourism revenue generated for the region and the country. Not only through more friendly environmental practices (e.g., natural waste recycling, water conservation, no dredge and fill operations, low-impact construction, etc.) but also because many fewer tourists would be required to generate the same levels of visitor income.

### **MODEL ASSUMPTIONS – BASE CASE**

Variable	Ecoresort	Traditional
Number of Rooms Built	300	2,000
Rate per person per night (euros)	230	33.5
Average Annual Occupancy	65%	65%
Double Occupancy Factor	1.9	1.9
Average Number of Employees per room	2	1
Percentage of employees hired locally	70%	5%
Percentage of goods procured locally	30%	5%
Average Daily Spend Tours & Entertainment (euros)	25	5
Average Daily Spend Restaurants & Bars (euros)	30	10
Average Daily Spend Handicrafts & Souvenirs (euros)	7	4
Average Daily Spend Miscellaneous (euros)	15	5

### **IMPACTS – BASE CASE**

Variable	Ecoresort	Traditional
Number of Visitor Nights	135,233	901,550
Total Direct Spending (€millions)	41.52	51.84
Total Direct Impacts Sales (€millions)	59.13	46.02
Capture Rate	93%	76%
Total Jobs Created	1,089	3,351
Total Jobs Created for Local Residents	908	691
Total Income Impacts (€millions)	23.50	16.24
Value Added Impacts (€millions)	36.65	26.51
Fiscal Impact (National Government) (€millions)	3.72	4.66
Fiscal Impact (Local Government) (€millions)	.56	.54

### IMPACTS - SENSITIVITY ANALYSIS, ROOM

Variable	Ecoresort	Traditional	Ecoresort	Traditional	Ecoresort	Traditional
Number of Rooms	300	2,000	200	1,500	400	3,000
Number of Visitor Nights	135,233	901,550	90,155	676,163	180,310	1,352,325
Direct Spending (€ml)	41.52	51.84	27.67	38.88	55.36	77.76
Sales Impacts (€ml)	59.13	46.02	39.42	34.53	78.84	69.06
Capture Rate	93%	76%	93%	76%	93%	76%
Total Jobs Created	1,089	3,351	726	2,513	1,452	5,027
Local Jobs Created	908	691	605	518	1,211	1,036
Income Impacts (€ml)	23.50	16.42	15.67	12.18	31.36	24.36
Value Added (€ml)	36.65	26.51	24.44	19.88	48.88	39.77
Fiscal (Nat'l)(€ml)	3.72	4.66	2.48	3.49	4.97	6.99
Fiscal (Loc.) (€ml)	.56	.54	.37	.40	.74	.81

### IMPACTS – SENSITIVITY ANALYSIS, RATES

Variable	Ecoresort	Traditional	Ecoresort	Traditional	Ecoresort	Traditional
Average Rate Per Guest	300	35	150	20	100	15
Number of Visitor Nights	135,233	901,550	135,233	901,550	135,233	901,550
Direct Spending (€ml)	50.98	53.19	30.69	39.67	23.93	35.16
Sales Impacts (€ml)	74.45	46.41	41.63	32.08	30.69	27.30
Capture Rate	94%	76%	90%	74%	87%	73%
Total Jobs Created	1,373	3,473	764	2,259	561	1,854
Local Jobs Created	1,137	693	692	671	482	663
Income Impacts (€ml)	29.64	16.78	16.78	11.39	12.10	9.59
Value Added (€ml)	46.23	27.40	27.40	18.56	18.85	15.61
Fiscal (Nat'l)(€ml)	4.97	4.78	2.76	3.58	2.15	3.17
Fiscal (Loc.) (€ml)	.72	.56	.36	.32	.24	.24

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### IMPACTS - "BREAK-EVEN" ANALYSIS, ROOMS

Variable	Ecoresort	Traditional
Number of Rooms	300	2,600
Sales Impacts (€ml)	59.13	59.86

Variable	Ecoresort	Traditional
Number of Rooms	300	2,650
Local Jobs Created	908	915

Variable	Ecoresort	Traditional
Number of Rooms	300	2,650
Local Jobs Created	908	915

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### **MULTIPLIERS AND RATIOS**

Assigned Multipliers & Ratios	Ecoresort	Traditional
Ratio of Employees to rooms	2:1	1:1
Sales Multiplier, Lodging	1.62	1.28
Sales Multiplier, Restaurants & Bars	1.58	1.58
Sales Multiplier, Handicrafts & Souvenirs	1.60	1.60
Sales Multiplier, Miscellaneous expenditures	1.53	1.53
Sales Multiplier, Lodging	1.60	1.60
Sales Tax, National	10%	10%
Sales Tax, Rooms Revenue, Local	2%	2%

Multipliers & Ratios Derived from Model	Ecoresort	Traditional
Sales Multiplier	1.54	1.17
Jobs Multiplier	1.44	1.08
Income Multiplier	1.60	1.10
Value-added Multiplier	1.62	1.24

### **ANNEX A** PowerPoint Presentation









United States Agency for International Development

## Comparative Economic Impact Analysis -Traditional vs. Sustainable Resort Development

## **Southern Red Sea Coast**

March 3, 2008

-DRAFT-



## **Purpose of Study**

- Compare the estimated economic impacts of traditional mass-market resort development vs. environmentally sustainable, community-focused, upmarket development ("Ecoresorts") in the Southern Red Sea Region (SRSR).
- In simplified terms, the aim of this study is to compare, for each model:
  - **Direct Impacts** Jobs created and income generated by resorts
  - Indirect Impacts Jobs created and income generated by suppliers to the resort industry (business expenditures).
  - Induced Impacts Jobs created and income generated from expenditures by employees of resorts and resort industry suppliers in the local economy (household expenditures).



- Economic Impact Analysis (EIA) An estimate of the extent to which an economic activity contributes to the economic development (jobs, income, tax revenues, etc.) of a defined area of study (SRSR).
- EAI estimates the income earned and jobs created from a given activity (tourist spending), how much of that income is spent locally, and how long those expenditures circulate within an economy before being exported for the purchase of goods and services produced elsewhere.
- For example, if a hotel guest pays \$100 for a one-night stay at a Red Sea Resort, some of that income will be used to pay hotel employee salaries. A portion of those wages will then be spent by employees to buy food from the local grocer. The grocer will buy some of its products from local farmers, who will in turn use part of that income to buy fertilizer.





- While that dollar or pound of income can in theory circulate indefinitely (and the larger and more integrated the economic area, the greater the number of rounds of spending), in reality **leakages** occur, through the purchase of goods and services produced outside the area.
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- The major drawback of this approach is that it requires tremendous amounts of detailed data to produce an Input-Output table. In most developing countries this level of detail is not available for the tourism industry (it is generally lumped into a broader "Services" category.)
- Given the lack of a sufficiently detailed Input-Output Table for Egypt, let alone the Red Sea region, we have used a modified approach that estimates appropriate multipliers from a mix of :
  - Data collected through surveys of existing resorts in the SRSR
  - Case studies and surveys of ecoresorts, both within and outside Egypt, that closely match the proposed model
  - An analysis of economic multipliers used in other destinations with similar characteristics (e.g., rural, remote resort areas).





- Economic multipliers for tourism spending tend to range between 1.1 and 1.9, depending upon size and degree of development of the study area, i.e., larger and more developed economies tend to have fewer leakages and thus have higher multipliers and receive greater economic benefits from visitor spending.
- For example, an employment multiplier of 1.3 would mean that for every 100 jobs created by a resort, 30 jobs would be created (100 x 1.3) by backward-linked suppliers to that industry (indirect impacts) and from household expenditures by employee of hotels and suppliers (induced impacts).
- In a study area where most supplies are imported (e.g., from the Nile Valley), or where employees migrate from other areas and remit most of their wages back to their region of origin (e.g., Nile Valley), employment and other multipliers will tend to be fairly low.





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- These ratios can be calculated for both direct and secondary impacts, and are a primary tool used in conducting our analysis of visitor spending.
- There are other non-economic ratios that can be used both to estimate impacts and verify the findings derived from other estimating techniques, e.g., the number of employees per room for different classes and types of hotels.





- For example, from our survey of existing hotels, an estimated that 97 percent of employees in the SRSR are recruited from outside the region.
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- In summary, the purpose of this study is to answer two fundamental questions:
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- There are, of course, a number of other factors that should be evaluated in determining which of these alternative development approaches should be pursued, including the social, cultural, and environmental impacts. This study focuses exclusively on economic impacts.





## **Data Sources**

- A survey of and interviews with existing resort hotels in the SRSR. Of 33 hotels currently in operation, 13 participated in the survey and included a mix of 5-star (3), 4-star (9) and 3-star (1) hotels.
- A survey of and interviews with six ecoresorts operating in Egypt and other countries and regions (2 in Egypt, I in Dubai, 2 in the Caribbean, and 1 in Australia).
- Secondary data (prior studies and desk research).
- A review and analysis of hotel and tourism economic impact studies and multipliers used in similar studies for destinations with similar characteristics. In total more than 40 reports and studies were reviewed.
- Based upon the above analysis we are confident the assumptions used in this study are fair and reasonable.





# **Study Assumptions**

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- The Ecoresort model used, based on the profiles of ecoresorts interviewed in and outside Egypt is an up-market model, with high average daily rates and higher levels of expenditures outside the hotel than guests of mass market resorts (i.e., the proposed model is not focused on the development of budget eco-accommodations geared toward backpackers and other low spending demographics).
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## **Model Assumptions**

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## **Model Assumptions**

- Ecoresort guests are more highly educated, have more interest in the nature, culture and history of destinations they visit, have higher household incomes, and spend more per day across expenditure categories, including food and beverage, guided tours and entertainment, handicrafts and souvenirs, and other expenditures than guests of Traditional resort guests.
- A higher percentage of Ecoresorts and Ecoresort guests will book rooms on a half-board or breakfast-only basis, and therefore will spend more in local restaurants and bars per day than traditional resort guests. Most traditional resorts in the Red Sea region are sold on an all-inclusive basis. Recent studies estimate that large all-inclusive resorts have 50 percent higher leakages than hotels where some meals and activities are not included.





## **Model Assumptions**

- From the results of surveys, Ecoresorts hire roughly double the number of employees per room as Traditional mass-market resorts. They also have a much higher propensity to employ people from local communities. For the 13 hotels surveyed in the study area, only 3 percent of employees are from within the region, vs. 70 percent for Ecoresorts.
- Ecoresorts also make extensive efforts to purchase, and in some cases assist in the production of local inputs, both for construction and operation. Ecoresorts surveyed purchase 30-50 percent of inputs locally. Traditional resorts surveyed purchase 0% of inputs locally.
- In summary, for every expenditure category studied, Ecoresorts and Ecoresort guests have a much higher propensity to spend money within local communities, and to spend more overall. In short, the economic impacts of Ecoresorts on the local communities and regions in which they operate are exponentially larger, on a per guest or room basis, that Traditional mass-market resorts.



## **Model Assumptions – Base Case**

Variable	Ecoresort	Traditional
Number of Rooms Built	300	2,000
Rate per person per night (euros)	230	33.5
Average Annual Occupancy	65%	65%
Double Occupancy Factor	1.9	1.9
Average Number of Employees per room	2	1
Percentage of employees hired locally	70%	5%
Percentage of goods procured locally	30%	5%
Average Daily Spend Tours & Entertainment (euros)	25	5
Average Daily Spend Restaurants & Bars (euros)	30	10
Average Daily Spend Handicrafts & Souvenirs (euros)	7	4
Average Daily Spend Miscellaneous (euros)	15	5





## Impacts – Base Case

Variable	Ecoresort	Traditional
Number of Visitor Nights	135,233	901,550
Total Direct Spending (€millions)	41.52	51.84
Total Direct Impacts Sales (€millions)	59.13	46.02
Capture Rate	93%	76%
Total Jobs Created	1,089	3,351
Total Jobs Created for Local Residents	908	691
Total Income Impacts (€millions)	23.50	16.24
Value Added Impacts (€millions)	36.65	26.51
Fiscal Impact (National Government) (€millions)	3.72	4.66
Fiscal Impact (Local Government) (€millions)	.56	.54





## Impacts – Sensitivity Analysis, Rooms

Variable	Ecoresort	Traditional	Ecoresort	Traditional	Ecoresort	Traditional
Number of Rooms	300	2,000	200	1,500	400	3,000
Number of Visitor Nights	135,233	901,550	90,155	676,163	180,310	1,352,325
Direct Spending (€ml)	41.52	51.84	27.67	38.88	55.36	77.76
Sales Impacts (€nl)	59.13	46.02	39.42	34.53	78.84	69.06
Capture Rate	93%	76%	93%	76%	93%	76%
Total Jobs Created	1,089	3,351	726	2,513	1,452	5,027
Local Jobs Created	908	691	605	518	1,211	1,036
Income Impacts (€nl)	23.50	16.42	15.67	12.18	31.36	24.36
Value Added (€ml)	36.65	26.51	24.44	19.88	48.88	39.77
Fiscal (Nat'l)(€ml)	3.72	4.66	2.48	3.49	4.97	6.99
Fiscal (Loc.) (€ml)	.56	.54	.37	.40	.74	.81





## Impacts – Sensitivity Analysis, Rates

Variable	Ecoresort	Traditional	Ecoresort	Traditional	Ecoresort	Traditional
Average Rate Per Guest	300	35	150	20	100	15
Number of Visitor Nights	135,233	901,550	135,233	901,550	135,233	901,550
Direct Spending (€ml)	50.98	53.19	30.69	39.67	23.93	35.16
Sales Impacts (€nl)	74.45	46.41	41.63	32.08	30.69	27.30
Capture Rate	94%	76%	90%	74%	87%	73%
Total Jobs Created	1,373	3,473	764	2,259	561	1,854
Local Jobs Created	1,137	693	692	671	482	663
Income Impacts (€nl)	29.64	16.78	16.78	11.39	12.10	9.59
Value Added (€ml)	46.23	27.40	27.40	18.56	18.85	15.61
Fiscal (Nat'l)(€ml)	4.97	4.78	2.76	3.58	2.15	3.17
Fiscal (Loc.) (€ml)	.72	.56	.36	.32	.24	.24





## Impacts – "Break-even" Analysis, Rooms

Variable	Ecoresort	Traditional
Number of Rooms	300	2,600
Sales Impacts (€nl)	59.13	59.86

Variable	Ecoresort	Traditional
Number of Rooms	300	2,900
Income Impacts (€nl)	23.50	23.55

Variable	Ecoresort	Traditional	Variable	Ecoresort	Traditional
Number of Rooms	300	2,650	Number of Rooms	300	2,750
Local Jobs Created	908	915	Value Added (€ml)	36.65	36.45





## Impacts – "Break-even" Analysis, Rates

Variable	Ecoresort	Traditional
Average Daily Rate	170	33.5
Sales Impacts (€nl)	46.00	46.02

Variable	Ecoresort	Traditional
Average Daily Rate	150	33.5
Income Impacts (€nl)	16.48	16.42

Variable	Ecoresort	Traditional	Variable	Ecoresort	Traditional
Average Daily Rate	165	33.5	Average Daily Rate	156	33.5
Local Jobs Created	696	691	Value Added ( <del>€</del> ml)	26.52	26.51





## **Multipliers & Ratios**

Assigned Multipliers & Ratios	Ecoresort	Traditional
Ratio of Employees to rooms	2:1	1:1
Sales Multiplier, Lodging	1.62	1.28
Sales Multiplier, Restaurants & Bars	1.58	1.58
Sales Multiplier, Handicrafts & Souvenirs	1.60	1.60
Sales Multiplier, Miscellaneous expenditures	1.53	1.53
Sales Multiplier, Lodging	1.60	1.60
Sales Tax, National	10%	10%
Sales Tax, Rooms Revenue, Local	2%	2%



## **Multipliers & Ratios**

Multipliers & Ratios Derived from Model	Ecoresort	Traditional
Sales Multiplier	1.54	1.17
Jobs Multiplier	1.44	1.08
Income Multiplier	1.60	1.10
Value-added Multiplier	1.62	1.24





# **Reality Check**

- There is, in our view, significant potential within the Southern Red Sea area for the type of low-impact, up-market, community-focused resort development proposed here. Exploiting that potential will, however, required significant technical assistance efforts (training, capacity building, access to credit), focused primarily on local communities.
- There are investors in Egypt interested in pursuing this type of development, but to be successful it will require a different approach to land planning. Densities will need to be significantly lower and design and architectural guidelines would need to be implemented. A 40-room ecoresort with €500 per night rates cannot be built 500 meters down the beach from a €40 per night mass-market resort.





# **Reality Check**

- In discussing local communities that would benefit from this type of development, it is important to define the boundaries of those communities. People living within the Wadi Gimal Protected Area number only about 2,000, meaning the available workforce is likely less than 250 people (primarily working-age men).
- Assuming all of them would be interested in working in an ecoresort (an unlikely scenario), the total number of rooms that could be supported would be 125. Thus the definition of "local community" likely needs to include Marsa Alam and other nearby population centers.





- The current mass-market resort development model has very little positive economic impact on Red Sea communities. Nearly all of the inputs (labor, capital, goods and services) required for the operation of these resorts are imported from the Nile Valley and most hotel guests never venture out beyond the walls of all-inclusive resorts.
- While there are benefits from this model to Egypt as a whole, those benefits are quite small relative to the investment required for hotel construction, roads, water, waste treatment, and electricity.
- Hotels currently operating in the region operate on very thin profit margins, and a significant share of those profits are retained in source markets, by the foreign tour operators who book virtually all of the room nights in these hotels.





- There is an alternative model that can be used to promote local economic development that will require much less significant investment in infrastructure and help the Red Sea region and Egypt retain more of the benefits of tourism investment and spending.
- This model will also help to diversify the market base for Red Sea tourism and reduce pressures on existing hotels to block-book most of their inventory through foreign tour operators, at very low prices.
- Not discussed in this report are the potential impacts on existing hotels of doubling the room supply of mass-market resorts, and the likely effect that would have on prices, occupancies, and profitability.





- The lower-density approach will also help to reduce pressures on the natural resources that are the foundation of Red Sea tourism and an important part of Egypt's environmental heritage.
- In this analysis, for example, roughly 27,000 ecoresort guests per year (300 rooms, average length of stay of 5 nights) would produce the same level of direct spending, and significantly more local jobs and economic impacts than 180,000 mass-market resort guests (2,000 rooms, 5 night stay).
- There is little doubt that environmental resources are being degraded by massmarket tourism development. The most important impacts are to the Egyptian Red Sea coast's coral reefs. The principal sources of degradation include:
- Suspension of fine sediments. From dredge and fill operations, creation of artificial lagoons, construction of large marine structures, and mining and quarrying. These suspended particles have damaged not only coral reefs, but also sea grass beds, mangroves, and other marine life (i.e., the entire food chain).



- Untreated or poorly treated liquid waste. While most large hotels have their own package plants, treated effluents are sometimes discharged into the sea. Significant coral reef damage is has already occurred in a number of areas along the Red Sea coast.
- Desalinization operations. Most of the fresh water for resort hotels is produced through desalinization. The waste product from this process is brine with a very heavy concentrations of salt and other minerals. This spent brine has been proven to cause damage to or kill coral reefs.
- Tourist activities. While the impact from individual operations, including diving, boating, do not have a significant impact, the cumulative impact from millions of tourists participating in marine-based activities each year undoubtedly leads to reef degradation.





- Left unchecked, these environmental pressures will eventually destroy the marine resource base and leave the country with no alternative development approaches.
- The lower density, lower impact approach modeled here would yield significantly less negative environmental impacts per dollar or pound of tourism revenue generated for the region and the country. Not only through more friendly environmental practices (e.g., natural waste recycling, water conservation, no dredge and fill operations, low-impact construction, etc.) but also because many fewer tourists would be required to generate the same levels of visitor income.







• ????????







# **Thank You**





### ANNEX B Traditional Resort Model

### Table 1. Number of Visitor Nights

### **1. NUMBER OF VISITOR NIGHTS**

901,550

SEGMENT	SHARE	Visitor Nights	
Traditional	100.0%	901,550	
	0.0%	0	
	0.0%	0	
	0.0%	0	
	0.0%	0	
	0.0%	0	
	0.0%	0	
	0.0%	0	
	0.0%	0	
	0.0%	0	
	0.0%	0	
	0.0%	0	
CHECK SUM	100.0%	901,550	

Visitor nights calculated as Number of rooms x 365 days x occupancy rate x double occupancy factor = Number of visitor nights In the above example: 2,000 rooms x 365 x  $.65 \times 1.9 = 135,233$ 

Table 2. Ecoresort Model	Expenditu	re Ecoresor	t Guest		F	Per Tradit	ional Res	ort Guest	t		2007				
					S	SEGMENT							AVG PER	TOTAL SPEND	PCT
SPENDING CATEGORY	Traditional	(euros)											NIGHT	(€000's)	
Lodging	33.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	33.50	30,202	58.3%
Guided tours & entertainment	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	4,508	8.7%
Restaurants & bars	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	9,016	17.4%
Handicrafts	4.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.00	3,606	7.0%
Misc. expenditures	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	4,508	8.7%
Total	57.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	57.50	51,839	100.0%

		Total w/o	Total
	Traditional	Taxes	
Lodging	30,202	26,966	30,202
Guided tours & entertainment	4,508	4,098	4,508
Restaurants & bars	9,016	8,196	9,016
Handicrafts	3,606	3,278	3,606
Misc. expenditures	4,508	4,098	4,508
Total	51,839	46,636	51,839

### Table 4. Multipliers for selected tourism-related sectors

		Total effects multipliers							
		Personal	Property V	alue Added		Jobs11/			
Sector	Jobs/ MM sales	inc/sales	Inc/sales	/sales	Sales II	MMsales	Incll/ sales V	A II/sales	Sales I
Hotels And Lodging Places	111 73	0.38	0.16	0.62	1 28	108 12	0 48	0 79	1 15
Guided tours & entertainment	16.23	0.35	0.09	0.51	1.58	39.62	0.44	0.67	1.17
Restaurants & bars	25.22	0.40	0.21	0.66	1.60	47.56	0.49	0.81	1.12
Handicrafts	22.13	0.33	0.17	0.55	1.53	16.87	0.43	0.71	1.20
Misc. expenditures	22.39	0.36	0.08	0.46	1.60	41.39	0.46	0.62	1.16
Food processing	4.72	0.18	0.14	0.32	1.33	9.73	0.28	0.50	1.23
Apparel from purch mate	6.02	0.18	0.03	0.22	1.25	16.11	0.26	0.35	1.18
Petroleum refining	0.37	0.04	0.05	0.10	1.19	2.44	0.08	0.19	1.16
Sporting goods	8.73	0.20	0.14	0.37	1.26	13.29	0.29	0.51	1.18
Manufacturing	7.04	0.27	0.14	0.42	1.37	16.68	0.41	0.64	1.22
Retail Trade	21.13	0.52	0.16	0.85	1.22	33.81	0.59	0.98	1.06
Wholesale trade	6.51	0.38	0.15	0.68	1.23	14.93	0.46	0.82	1.10

Retail is average or sum of the 7 retail trade sectors

### Table 4.1 Computation of Direct Effects Spending, sales, income and value added in (€000's)

			Wholesale	R	Margin	W	Sales	Direct	Personal		
	Spending	Retail Margin	Margin	Local Prod ca	aptured	Margin	Captured	Jobs	Income	Property Inc	Value Added
Lodging	30,202			83%	-	-	25,068	2,801	9,648	4,034.2	15,440.9
Guided tours & entertainment	4,508			100%	-	-	4,508	73	1,735	725.4	2,776.6
Restaurants & bars	9,016	33.3%	12.3%	70%	3,002	1,109	3,433	87	1,219	309.8	1,750.1
Handicrafts	3,606	25.3%	12.3%	75%	912	444	1,682	37	305	228.5	545.9
Misc. expenditures	4,508	22.3%	8.3%	14%	1,005	374	447	10	81	23.8	43.2
Retail Margin captured				80%			3,936	99	1,585	815.7	2,599.6
Wholesale margin captured	<u>d</u>			<u>20%</u>			385	9	128	65.0	212.0
Total	51,839				4,920	1,927	35,137	3,008	12,988	5,322	20,557
Capture rate	68%										
Local Goods production							2,129	47	386	252	589

2007

### Table 4.2 Computation of Total Effects Spending, sales, income and value added in (€000's)

				Direct +
		Personal	Total Value	Indirect
Total Sales	Total Jobs	Income	Added	Sales

Lodging	32,087	2,710	12,036	19,743.0	28,752	
Guided tours & entertainment	5,770	487	2,164	3,550.3	5,170	
Restaurants & bars	5,411	136	1,525	2,300.6	4,020	
Handicrafts	2,244	16	477	833.4	2,069	
Misc. expenditures	531	1	37	85.1	520	
Retail Trade	4,809	133	2,334	3,876	4,176	
Wholesale Trade	473	6	178	315	425	
Total	46,042	3,351	16,239	26,512	40,531	

1.15 Type I sales

Model Name

Red Sea Ecoresort

YEAR

2007

			Tax rates		Tax Collection	าร		Sales
Taxes on Spending	Spending	Federal	Governate	Local	fed	state	local	Total
Hotel taxes	26,966	10%	0%	2%	2,697	-	539	3,236
Taxes on Excursions	4,098	10%	0%	0%	410	-	-	410
Taxes Restaurants & bars	8,196	10%	0%	0%	820	-	-	820
Taxes Handicrafts sales	3,278	10%	0%	0%	328	-	-	328
Other sales taxes	4,098	10%	0%	0%	410	-	-	410
Total Taxes on Spending					4,664	-	539	5,203
Taxes on Direct Income					-	-	-	-
Total Direct Taxes					4,664	-	539	5,203

Table 4. Tax Impacts of Direct Sales and Incom (€000's)

NOTES: Tax receipts are computed on direct sales and income using the tax rates Tax rates are applied to direct spending and income estimated in previous pages. Income tax rates reflect an average tax accounting for normal deductions

Spending profiles are assumed to include applicable taxes Taxes are removed in computing sales, income, and employment effects

## SUMMARY OF RESULTS: Traditional Resort Model

Year of spending data	2007	
Multipliers	Red Sea Ecoresort	
Visitor Nights	901,550	
Average spending	€ 58	Per Traditional Resort Guest
Total Visitor Spending (€000's)	€ 51,839	
Capture rate	76%	
Effective spending multiplier	0.89	

### Table 1. Spending and Visits by Segment

	Segment								
	Traditional	(euros)	0	0	0	Total			
Average spending (€ per day)	€ 57.50	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 57.50			
Visitor nights	901,550	-	-	-	-	901,550			
Total spending (€millions)	<u>€ 51,839</u>	<u>€ 0</u>	<u>€ 0</u>	<u>€ 0</u>	<u>€ 0</u>	<u>€ 51,839</u>			

### Table 2. Economic Impacts of Visitor Spending

	Sales		Income	Value Added
Sector/Spending category	€000's	Jobs	€000's	€000's
Direct Effects				
Lodging	25,068	2,801	9,648	15,441
Guided tours & entertainment	4,508	73	1,735	2,777
Restaurants & bars	3,433	87	1,219	1,750
Retail Trade	3,936	99	1,585	816
Wholesale Trade	385	9	128	65
Local Production of Goods	2,129	47	386	589
Total Direct Effects	39,458	3,115	14,701	21,438
Secondary Effects	6,583	236	1,539	5,075
Total Effects	€ 46,042	3,351	€ 16,239	€ 26,512
Multiplier	1.17	1.08	1.10	1.24

Table 3. Tax Impacts of I	(€000's)		
	Sales	Income	Total
Federal	4,664	-	4,664

Federal	4,664	-	4,664
State	-	-	-
<u>Local</u>	539	-	539
Total	5,203	-	5,203

#### Table 4. Marginal Impacts

	change	
	per	change per
	\$1,000 of	1,000
	visitor	visitor
	spending	nights
Spending	€ 1,000	€ 58,000
Direct sales	\$ 761	€ 44,148
Direct personal income	\$ 284	€ 16,448
Direct value added	\$ 414	€ 23,985
Direct jobs	0.060	3.49
Total sales	€ 888	€ 51,514
Total personal income	€ 313	€ 18,169
Total value added	€ 511	€ 29,663
Total jobs	0.065	3.75

### Calculation of Local Jobs Created

Total local hotel jobs (.05 percent of total lodging jobs - D22) 140

Total local jobs (local lodging jobs plus (j25) plus other direct and indirect jobs created) 691

### **ANNEX C** Ecoresort Model

#### **Ecoresort Model**

Table 1. Number of Visitor Nights

#### **1. NUMBER OF VISITOR NIGHTS**

135,233

SEGMENT	SHARE	Per Ecoresort Guest	
Ecoresort (euros)	100.0%	135,233	
	0.0%	0	
	0.0%	0	
	0.0%	0	
	0.0%	0	
	0.0%	0	
	0.0%	0	
	0.0%	0	
	0.0%	0	
	0.0%	0	
	0.0%	0	
	0.0%	0	
CHECK SUM	100.0%	135,233	

Visitor nights calculated as Number of rooms x 365 days x occupancy rate x double occupancy factor = Number of visitor night In the above example: 300 rooms x 365 x .65 x 1.9 = 180,310

Table 2. Ecoresort Model	Expenditu	ure Ecoreso	ort Guest		F	Per Ecore	sort Gues	st			2007				
					S	SEGMENT							AVG PER	TOTAL SPEND	PCT
SPENDING CATEGORY	Ecoresor	t (euros)											NIGHT	(€000's)	
Lodging	230.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	230.00	31,103	74.9%
Guided tours & entertainment	25.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.00	3,381	8.1%
Restaurants & bars	30.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.00	4,057	9.8%
Handicrafts	7.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.00	947	2.3%
Misc. expenditures	15.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.00	2,028	4.9%
Total	307.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	307.00	41,516	100.0%

Table 3. Total Spending			
· · · · · · · · · · · · · · · · · · ·		Total w/o	Total
Ecore	esort (euros)	Taxes	
Lodging	31,103	27,771	31,103
Guided tours & entertainment	3,381	3,073	3,381
Restaurants & bars	4,057	3,688	4,057
Handicrafts	947	861	947
Misc. expenditures	2,028	1,844	2,028
Total	41,516	37,237	41,516

#### Table 4. Multipliers for selected tourism-related sectors

	Direct effects	Total effects multipliers							
		Personal	Property Va	lue Added		JobsII/			
Sector	Jobs/ MM sales	inc/sales	Inc/sales	/sales	Sales II	MMsales	IncII/ sales V	A II/sales	Sales I
Hotels And Lodging Places	19.35	0.40	0 15	0.62	1 62	30.00	0.65	1 01	1 31
Guided tours & entertainment	16.23	0.39	0.09	0.55	1.58	32.21	0.61	0.90	1.29
Restaurants & bars	25.22	0.44	0.16	0.66	1.60	31.93	0.68	1.04	1.27
Handicrafts	22.13	0.35	0.18	0.58	1.53	15.10	0.56	0.90	1.27
Misc. expenditures	22.39	0.50	0.10	0.63	1.60	28.65	0.75	1.00	1.24
Food processing	4.72	0.21	0.16	0.37	1.44	9.09	0.38	0.64	1.26
Apparel from purch mate	6.02	0.41	0.08	0.50	1.56	11.70	0.62	0.83	1.26
Petroleum refining	0.37	0.03	0.08	0.12	1.32	2.39	0.12	0.27	1.26
Sporting goods	8.73	0.23	0.15	0.40	1.51	13.61	0.43	0.72	1.31
Manufacturing	7.04	0.33	0.19	0.53	1.51	12.18	0.53	0.84	1.26
Retail Trade	21.13	0.49	0.15	0.80	1.48	26.46	0.68	1.11	1.16
Wholesale trade	6.51	0.42	0.13	0.70	1.52	12.29	0.64	1.03	1.22
Retail is average or sum of	of the 7 retail trade sect	tors							

2007

Value Added

508.0

143.4

68.5

15.8

260.6

28.1

5,409

84

258

14

643

19,175.3

2,084.3

844.5

164.4

1,071.7

23.9

91.2

188

22,292

Table 4.1 Computation of Direct Effects Spending, sales, income and value added in (€000's) Wholesale R Margin W Sales Direct Personal Property Inc Spending Retail Margin Margin Local Prod captured Margin Captured Jobs Income 31,103 100% 31,103 602 12,316 4,673.4 Lodging --Guided tours & entertainment 3,381 100% -3,381 55 598 -4,057 33.3% 12.3% 70% 499 1,545 39 677 Restaurants & bars 1,351 947 25.3% 12.3% 75% 239 116 442 10 156 Handicrafts 2,028 22.3% 8.3% 14% 452 168 201 5 102 Misc. expenditures 80% 1,634 41 804 Retail Margin captured <u>20%</u> Wholesale margin captured 157 3 66 36,672 710 Total 41,516 2,043 784 13,849

Local Goods production

Capture rate

Table 4.2 Computation of Total Effects Spending, sales, income and value added in (€000's)

88%

	Total Salos	Total Jobs	Personal	Total Value	Direct + Indirect
	TUTAL SALES	TULAI JUDS	Income	Auueu	Jaies
Lodging	50,324	933	20,174	31,496.0	40,751
Guided tours & entertainment	5,470	101	2,193	3,423.5	4,429
Restaurants & bars	2,435	50	941	1,396.4	1,989
Handicrafts	638	4	169	282.4	558
Misc. expenditures	266	0	25	55.2	254
Retail Trade	2,423	43	1,113	1,815	1,895
Wholesale Trade	239	2	100	161	192
Total	59,133	1,089	23,501	36,654	47,983

1.31 Type I sales

Model Name

Red Sea Ecoresort

YEAR

2007

			Tax rates		Tax Collection	าร		Sales
Taxes on Spending	Spending	Federal	Governate	Local	fed	state	local	Total
Hotel taxes	27,771	10%	0%	2%	2,777	-	555	3,333
Taxes on Excursions	3,073	10%	0%	0%	307	-	-	307
Taxes Restaurants & bars	3,688	10%	0%	0%	369	-	-	369
Taxes Handicrafts sales	861	10%	0%	0%	86	-	-	86
Other sales taxes	1,844	10%	0%	0%	184	-	-	184
Total Taxes on Spending					3,724	-	555	4,279
Taxes on Direct Income	13,849				-	-	-	-
Total Direct Taxes					3,724	-	555	4,279

Table 4. Tax Impacts of Direct Sales and Incom (€000's)

NOTES: Tax receipts are computed on direct sales and income using the tax rates Tax rates are applied to direct spending and income estimated in previous pages. Income tax rates reflect an average tax accounting for normal deductions

Spending profiles are assumed to include applicable taxes Taxes are removed in computing sales, income, and employment effects

## SUMMARY OF RESULTS

Year of spending data	2007	
Multipliers	Red Sea Ecoresort	
Visitor Nights	135,233	
Average spending	€ 307	Per Ecoresort Guest
Total Visitor Spending (€000's)	€ 41,516	
Capture rate	93%	
Effective spending multiplier	1.42	

### Table 1. Spending and Visits by Segment

Tuble 1. Spending and visit.	s by beginein					
			Segment			
Ecor	esort (euros)	0	0	0	0	Total
Average spending (\$ per day)	€ 307.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 307.00
Visitor nights (000's)	135,233	-	-	-	-	135,233
Total spending (\$millions)	<u>€ 41,516</u>	<u>€ 0</u>	<u>€ 0</u>	<u>€ 0</u>	<u>€ 0</u>	<u>€ 41,516</u>

### Table 2. Economic Impacts of Visitor Spending

	Sales		Income	Value Added
Sector/Spending category	€000's	Jobs	€000's	€000's
Direct Effects				
Lodging	31,103	602	12,316	19,175
Guided tours & entertainment	3,381	55	598	2,084
Restaurants & bars	1,545	39	677	845
Retail Trade	1,634	41	804	261
Wholesale Trade	157	3	66	28
Local Production of Goods	643	14	258	188
Total Direct Effects	38,463	755	14,719	22,581
Secondary Effects	20,670	334	8,782	14,072
Total Effects	€ 59,133	1,089	€ 23,501	€ 36,654
Multiplier	1.54	1.44	1.60	1.62

Table 3. Tax In	pacts of Direct	Sales and Income	(€000's)
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	Sales	Income	Total
Federal	3,724	-	3,724
State	-	-	-
<u>Local</u>	555	-	555
Total	4,279	-	4,279

### Table 4. Marginal Impacts

	change	
	per	change per
	\$1,000 of	1,000
	visitor	visitor
	spending	nights
Spending	€ 1,000	€ 307,000
Direct sales	\$ 926	€ 284,420
Direct personal income	\$ 355	€ 108,841
Direct value added	\$ 544	€ 166,979
Direct jobs	0.018	5.58
Total sales	€ 1,424	€ 437,266
Total personal income	€ 566	€ 173,783
Total value added	€ 883	€ 271,041
Total jobs	0.026	8.05

### **Calculation of Local Jobs Created**

421	Total local hotel jobs (.05 percent of total lodging jobs - D22)
908	Total local jobs (local lodging jobs plus (j25) plus other direct and indirect jobs created)