

CHAPTER FIVE

RESULTS OF THE STAKEHOLDERS SURVEYS

This chapter includes the presentation of the collected data, statistical analysis, and discussion of the findings.

5.0. INTRODUCTION

The main purposes of the proposed study are to a) measure beach resort designers/managers/visitors' perceptions concerning relevant natural, cultural, and built environment problems and concerns toward sustainability implementation, as well as to b) develop a sustainable design model to assist designers/planners in decisions that conserve the natural and cultural resources and ensure that development is ecologically inheritable with the maintenance of essential ecosystems; socially compatible with the local social and culture values; and economically sound so resources can efficiently support future generations.

5.1. SURVEY PARTICIPANTS

The total number of participants in the survey study was 276, with 154 respondents (55.8%) from the American sample and 122 (44.2%) from the Egyptian sample. Of the total sample, 41.7 % were visitors, 27.2% were designers, and 31.2% were managers. Also the individual number of respondents from each coastal zone is included [see Table 5-1]. This section describes the demographic characteristics of the respondents completing the three surveys including visitors, designers/planners, and managers/owners of beach resorts. Also, the analysis presents the attitudes of the three stakeholder groups toward environmental issues and sustainability concerns that are relevant to the conservation of the natural resources and the preservation of the cultural resources. A summary of the results of a descriptive statistic analysis (cross-tabulations) for visitors to beach resorts in the US and Egypt is presented in the Appendices.

Table (5- 1): Survey Participants

	COASTAL ZONE	DESIGNERS		MANAGERS		VISITORS		Total	
		N	%	N	%	N	%	N	%
Egypt	North Western Coast	9	12	9	10.47	10	8.7	28	10.14
	Hurghada	6	8	7	8.14	12	10.43	25	9.06
	Sharm El-Sheikh	10	13.33	11	12.79	15	13.04	36	13.04
	Ras Sudr	5	6.67	6	6.98	5	4.35	16	5.8
	El-Ein El-Sokhna	6	8	6	6.98	5	4.35	17	6.16
	Total Egypt	36	48	39	46.51	47	40.87	122	44.57
USA	Florida	8	10.67	13	15.12	14	12.17	35	12.68
	California	7	9.33	9	10.47	11	9.57	27	9.78
	Hawaii	7	9.33	7	8.14	10	8.7	24	8.7
	Carolinas	6	8	6	6.98	10	8.7	22	7.97
	Other States	11	14.67	12	13.95	23	20	46	16.67
	Total U.S.	39	52	47	53.49	68	59.13	154	55.43
	Grand Total	75	27.17	86	31.16	115	41.67	276	100

The 1-5 point Likert scale was used with a sample size of (N>30) according to the central limit theory, the sample mean (X) has a normal distribution. The level of significance for all statistical tests (alpha) is equal to 0.05. The following is the descriptive analysis of the three stakeholders groups.

5.1.1. Visitors

The total number of respondents completing the visitor survey was 115, including 47 visiting Egyptian Resorts (44.4%), and 68 visiting American resorts (55.6%). The analysis of the visitor section included two parts. The first part analyzed visitor demographic variables. The second part presents variables that may influence the visitors' perceptions of environmental problems and sustainability ideas and concepts.

Demographic Variables

Analysis of the visitor demographic variables revealed a typical profile, “prototype”, of visitors to beach resorts in both countries. Four demographic variables were included in the survey: country of origin, gender, age, education level; and six factors determine tourist typology, they are: size of visitor groups, average length of stay, month of visit, average spending, average income, and purpose of visit.

Country of Origin

Approximately half of the Egyptian resort visitors were Egyptian (51.1%), while visitors of other nations (France, Germany, Russia, America, Italy, and other Arab countries) made up the remaining 48.9%. The American resort visitors were predominantly from America (75%), while the remaining 25% of visitors were from other countries, of which 5.9% were Egyptian.

Gender

Seventy males and 45 females made up the visitor sample. This included 39 males visiting America (57.4%), 31 male visitors to Egypt (66%), 29 females visiting America (42.6%), and 16 female visitors to Egypt (34%).

Age

The largest proportion (61.7%) of the American sample was 26 to 40 years old, while the largest proportion of the Egyptian sample (70.2%), was between 21 and 35 years old. There were no visitors over 45 years of age in the Egyptian sample while the American sample was comprised of 21.7% of visitors in this age bracket.

Education Level

The majority of the Egyptian sample (66%) had a Bachelor's degree, while less than half of the American sample (45.6%) had this degree. While 26.4% of the American sample had a high school diploma or Associate's degree, only 10.7% of the Egyptian sample reported this education level. Approximately one quarter of the American sample (27.9%) reported having completed graduate study, and 23.4% of the visitors to Egypt had the same level of education.

Tourists Typology

Size of Visitor's Group

Most visitors to American beaches (60.3%) were part of a very small group (1-2 persons), while most visitors to Egyptian beaches (68.0%) were part of medium size groups. Large visitor

groups (5 or more persons) represented 12.3% of visitors to American beaches and 17% of visitors to Egyptian beaches.

Length of Stay at Resort

The majority of the visitors to American resorts (61.8%) stayed for 4-7 days, while 49% of visitors in the Egyptian sample stayed for this length of time. There were no visitors to the Egyptian resorts that stayed less than 4 days, in fact, most of these visitors (51%) stayed longer than 7 days. A relatively significant number of visitors to American resorts (22.1%) stayed less than 3 days. Only 16.1 % of the American sample stayed for more than 7 days.

Month of Visits

The majority of visitors to Egyptian resorts concentrated their visits in the summer season of June, July, and August (48.9%, 21.3%, and 19.1% respectively), while visitors to the American resorts spread their visits throughout the year (average range of 2.9% to 11.8%) with July being the only month recording higher than average percentages.

Average Spending

The average spending of visitors in dollars per day is significantly higher for the American resorts than those who visit most Egyptian resorts especially the North Coast, Ras Sudr, and El Ein El Sokhna resorts. Spending at Sharm El Sheik and Hurghada resorts was more comparable to American resort spending. Data shows that 29.8% of Egyptian resort visitors spent less than \$50/day, while only 3% of the American sample spent this little. The percentage of visitors spending between \$50- \$100 a day was similar for both study sites: 35.3% for American resorts and 38.3% for Egyptian resorts. Almost twice as many visitors to American resorts (49%) spent \$100-\$200 a day as did visitors to Egyptian resorts (23.4%). The percentages of visitors spending over \$200/day was similar in both study sites: American resorts (12.7%) and Egyptian resorts (8.5%).

Average Income

Results indicated that, in general, visitors to American resorts had a significantly higher average income than visitors to Egyptian resorts. 10.6% of visitors to Egyptian resorts had an income under \$10,000. No visitors to American resorts had an average income less than \$10,000. The majority of visitors to Egyptian resorts (25.5%) earn \$10,000-\$20,000, while the majority of visitors to American resorts (35.3%) earn \$30,000 to \$40,000. Both countries have a small percentage of visitors earning over \$80,000 (4.4% in the American sample and 2.1% in the Egyptian sample).

Main Purpose(s) of Visit

Results showed that recreation was the major purpose for most visitors to beach resorts. Both groups of respondents showed a high proportion of visitors who make their trip to the resort for the purpose of recreation (57.4% for visitors to American resorts and 68.1% for those who visit Egyptian resorts). Nature activities such as sightseeing, wildlife, and diving interests represented a significant interest to a large sector of beach visitors (35.3% of visitors to American resorts and 25.5% of Egyptian resort visitors). There was no interest on the part of visitors to American resorts to visit historic sites. Very few visitors to Egyptian resorts (2.1%) showed this interest either perhaps because there are no major historic sites in close distance to the remote Egyptian resort sites.

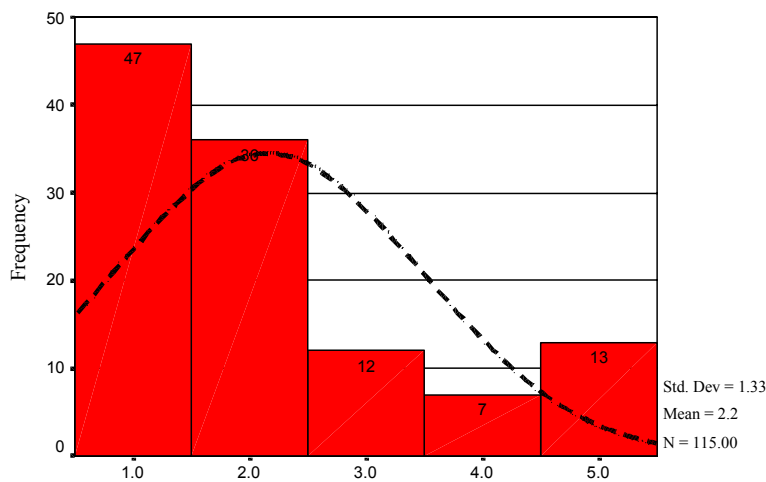
Summary of Visitors' Profiles

A “typical” visitor to an Egyptian resort is: an Egyptian citizen, male, traveling with a group of 2-5 persons, 21 to 35 years of age, college educated, staying more than 7 days at the resort, traveling in the high season of May, June, or July, spending less than \$50 per day, with an average income between \$10,000- \$20,000, with recreation as the main purpose of their visit. A “typical” visitor to an American resort is: an American citizen, male, traveling in a group of 1-2 persons, 26 to 30 years of age, college educated, staying at the resort for 1-3 days, traveling in the high season of July, spending between \$100- \$200 per day, with an average income of \$30,000-\$40,000, with recreation and nature activities as the main purposes of the trip. For more detailed information, demographic tables and graphs are presented in Appendix (E).

Attitude toward Resort Environment¹

Ten variables were addressed to present visitors' perceptions of environmental problems and sustainability ideas and concepts. The perceptions were based on the beach resort they have visited within the last five years. The ten variables included were: frequency visit to beach resort, visitor satisfaction, visitor attraction, items that visitor like best about the resort, items that visitor like least about the resort, factors that are important to visitor in selecting a resort for visit, visitor's belief on the importance of environmentally sensitive resort development to the environment, visitor's belief on the current resort development quality, and finally visitor's identification of things that made the resort environmentally sound.

Frequency of Visits to Beach Resort



Visitors' frequent times of visit to the same beach resort

¹ Each figure included in this section consists of two graphs for each factor under analysis: a) the first figure illustrates a bar graph with a fit smooth curve showing the general tendency of the whole sample; and b) the second figure illustrates a bar graph comparing responses of participants from each individual country, the US and Egypt.

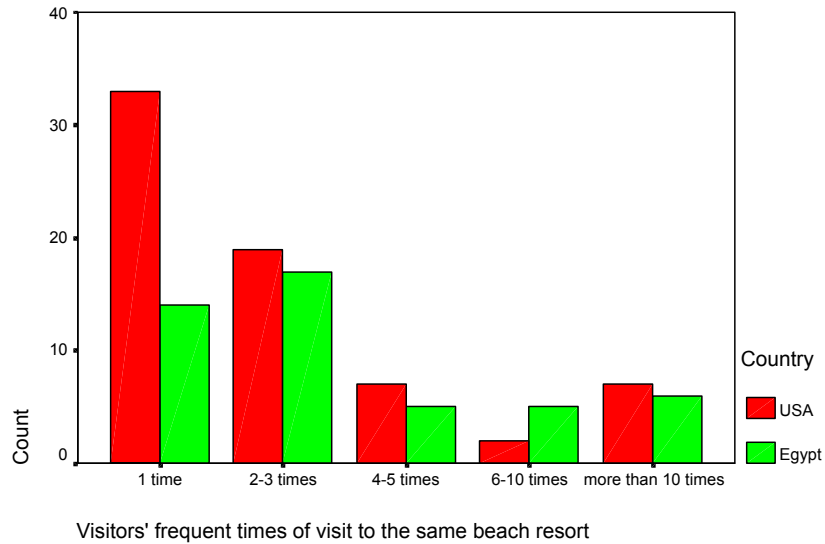
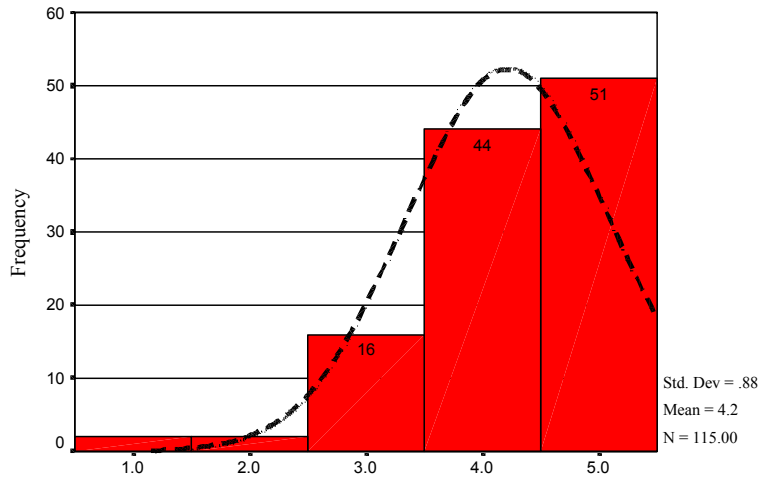


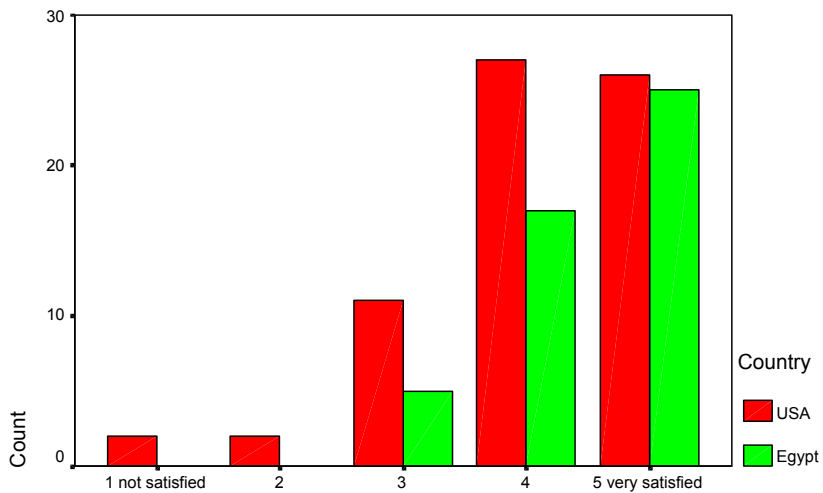
Figure (5- 1): Visitors' Frequency of Visits to the Same Beach Resort

Results of the frequency distribution of visitors’ number of visits to the same beach resort (Figure 5-1) indicated that the general tendency was to visit the same resort only one time. This result was the same for both study sites. This may be explained by the nature of tourists who are eager to explore new tourism destinations in an effort to extend their personal knowledge and experience. A few who visitors from both study sites reported staying at the same beach resort more than 10 times. This may reflect those visitors who live close to the resorts or those who own accommodation units. The majority of visitors to Egyptian resorts visited the same resort 2-3 times, while the majority of visitors to American beaches reported a “1 time” mode of visit. This may be explained by the fact that there are fewer choices and less variety for visitors to Egyptian resorts. Also, visitors to Egyptian resorts must consider travel distance to the resort and the cost of stay as a major factor of their visit.

Visitors' Satisfaction



Visitors' satisfaction of their stay at the beach resort



Visitors' satisfaction of their stay at the beach resort

Figure (5- 2): Visitors' Satisfaction with Their Stay at Beach Resort

Results of the frequency distribution (Figure 5-2) indicated that, in general, visitors to both study sites were “very satisfied” with the beach resorts. Visitors to the American resorts showed a tendency to report moderate to above levels of satisfaction. Visitors to Egyptian resorts

were less satisfied overall than those visiting American resorts, however, visitors to Egyptian resorts did not report low levels of satisfaction.

Visitors' Attraction

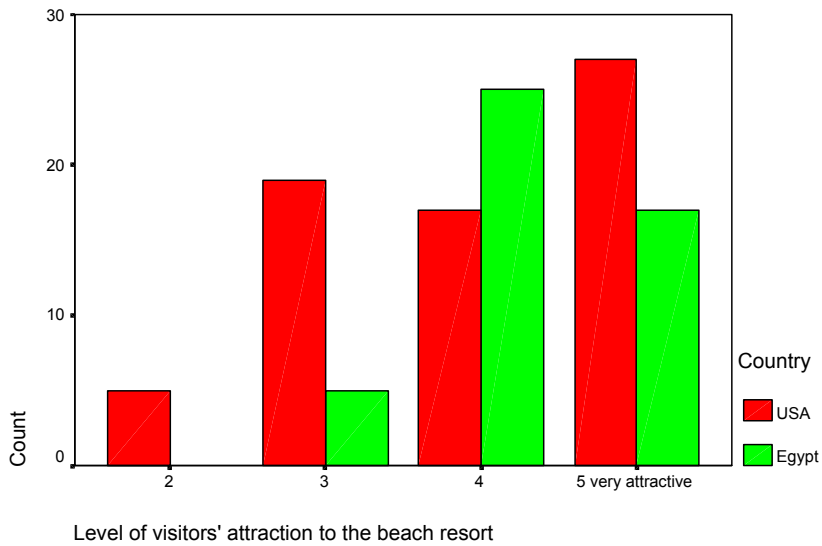
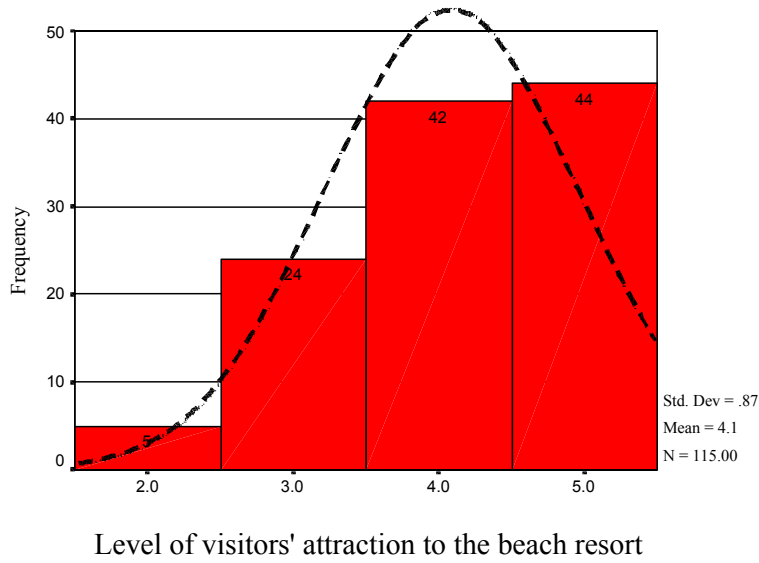
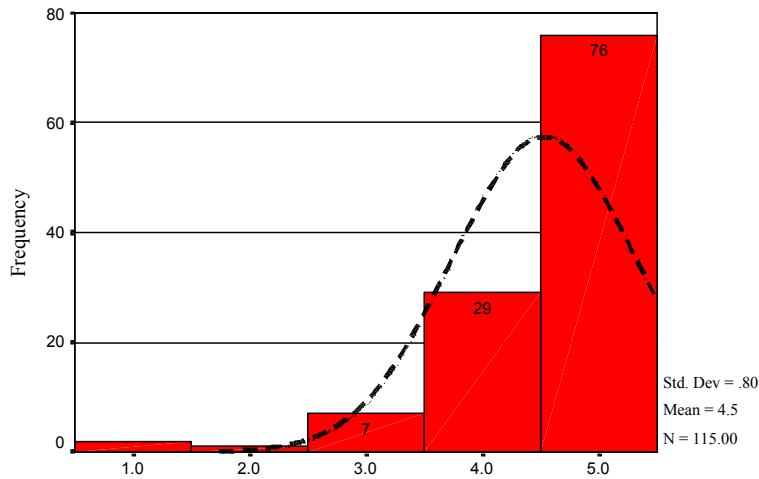


Figure (5- 3): Level of Visitors' Attraction to Beach Resort

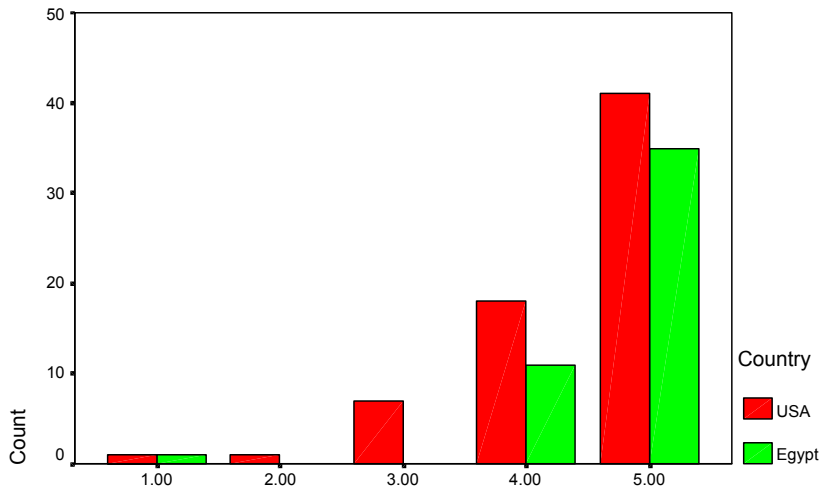
Figure (5-3) illustrates the general tendency of visitors to both study sites was to report moderate to high levels of attraction. Visitors to American resorts indicated higher levels of

attraction. Visitors to Egyptian resorts indicated a moderate level of attraction that may reflect their high frequency of visits to the same resort. This is explained by the fact that the majority of visitors to beach resorts showed great concern for environmental issues.

Perceptions of Environmentally Sensitive Development



Visitors' beliefs on the environmentally sensitive development

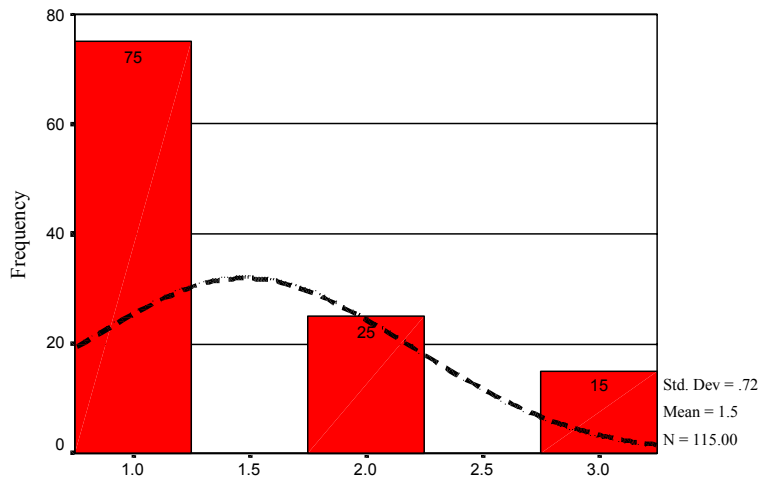


Visitors' beliefs on the sensitivity of current development

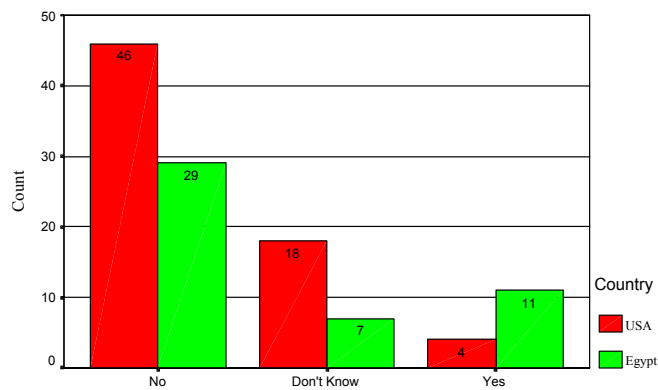
Figure (5- 4): Visitors' Beliefs about the Importance of Environmentally Sensitive Development

They reported that it was “very important” that coastal resorts be developed in a manner sensitive to the natural and cultural environment of the area. Visitors to both countries showed the same tendency with visitors to American resorts giving this factor a slightly higher rating. Responses by visitors to both study sites suggest increased concern for the environment may reflect the degradation occurring to beach.

Attitudes toward Current Development Quality



Visitors' beliefs on the current resort development



Visitors' beliefs on how the current coastal resorts are developed in a

Figure (5- 5): Visitors' Beliefs about whether Current Beach Resorts are Developed Sensitively

Figure (5-5) shows that the majority of visitors expressed unhappiness of the current state of development and its negative effect on beach resorts. Results of the frequency distribution indicate that almost 70% of the visitors did not perceive that most current coastal resorts are developed in a manner that is environmentally sensitive. A significant number responded, “Don’t know” indicating that the public needs to be more aware and knowledgeable on the issue. A few from each study site indicated that the resorts they are visiting showed signs of sensitivity to the environment.

Visitor Criteria for Beach Resort Selection²

Beach services, facilities, and activities, as well as the overall environmental quality was studied using the written survey and the site visit (observational survey) in order to understand the factors that led people to visit beach resorts, and to describe and interpret the ways people behave once they are there. Assessing the distribution of visitors, activities, and facilities is of great importance, both in describing current pressures (impacts) and in determining zoning for future management plans. Using a Likert scale with values ranging from “1=less important” to “5=more important,” visitors were asked to respond to a list of factors affecting their selection of beach resort destinations. Two types of graphs illustrate the outcomes for visitors on the 15 factors listed below. The first graph is a frequency chart illustrating the overall frequency of responses from all respondents in Egypt and America. The second graph is a bar graph that illustrates the responses per coastal zone (5 in Egypt and 5 in America). The factors are: a) size and quality of beach; b) opportunity to visit historic sites; c) swimming pool; d) cost; e) size and quality of housing units; f) pleasant landscaping; g) opportunities to visit with others; h) opportunities to view wildlife and nature; i) character of surrounding area; j) opportunities for privacy; k) quality of local shops and restaurants; l) opportunities for diving; m) opportunities for swimming in the ocean; n) character of the architecture; and o) opportunities for relaxation and reflection.

² Each figure included in this section consists of two graphs which present criteria affecting visitors’ selection of a beach resort: a) the first figure illustrates a bar graph with a fit smooth curve showing the general tendency of the whole sample; and b) the second figure illustrates a bar graph of responses of individual participants for the ten US and Egypt coastal zones.

Factor (a): Size and quality of beach

Figure (5-6) shows that 78 of 115 (67.8%) visitors rated the size and quality of the beach area as a major factor (score of 5.0) in their destination selection. Individual coastal zones illustrated a wider range of scores. In America, beach size and quality was scored lowest in California (3.60), while the Carolina respondents rated this factor the highest (4.70). In Egypt, El Ein El Sokhna had the highest score (5.00), while the other resorts reported similar scores approximating 4.70. It appears that, overall, the visitors to Egyptian resorts ranked this factor as more important than the visitors to American resorts.

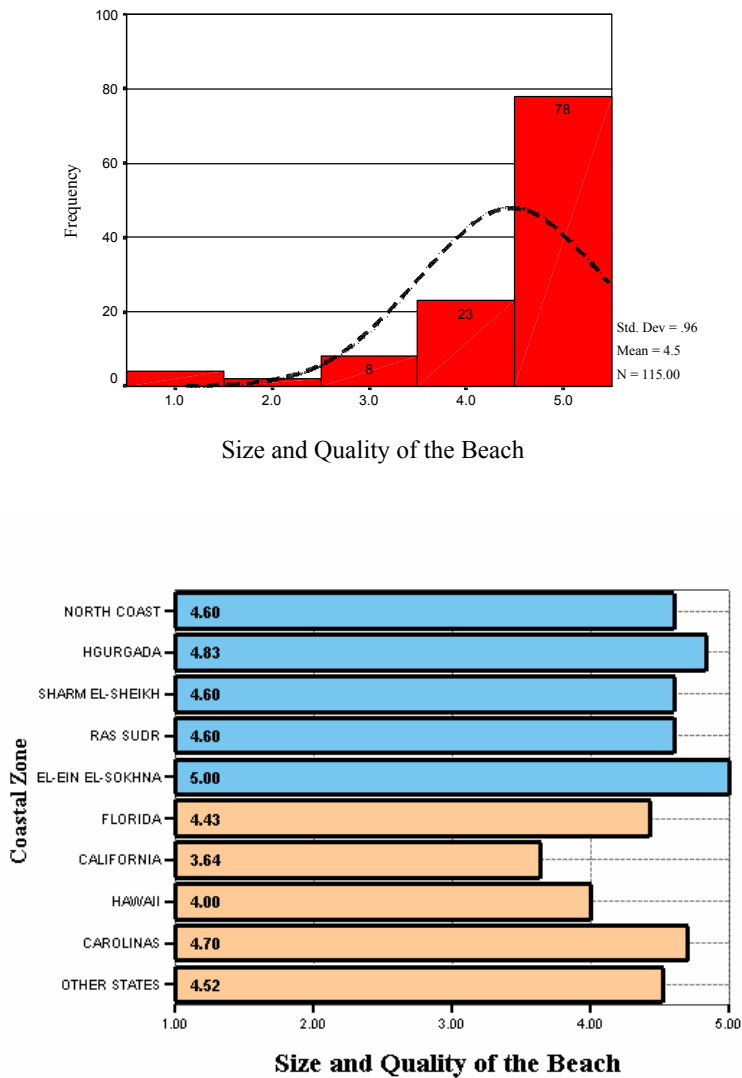


Figure (5- 6): Affect of "Size and Quality of Beach" on Visitors' Selection of Beach Resort Destination

Factor (b): Opportunity to visit historic sites

The overall scores show an average interest (3.0) in the opportunity to visit historic sites as a main factor for selecting a resort destination. The scores for the majority of individual coastal zones also show an average score for this factor with the exception of El Ein El Sokhna. This zone is close to Cairo where great historical sites are abundant (Figure 5-7).

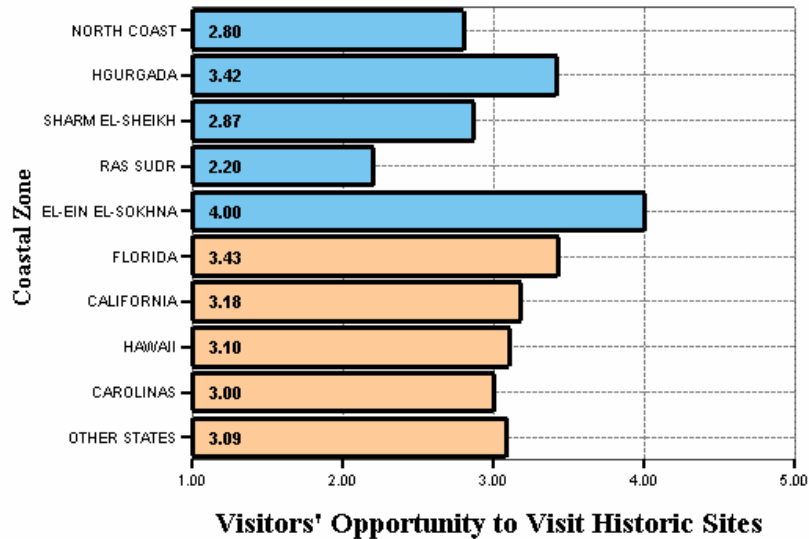
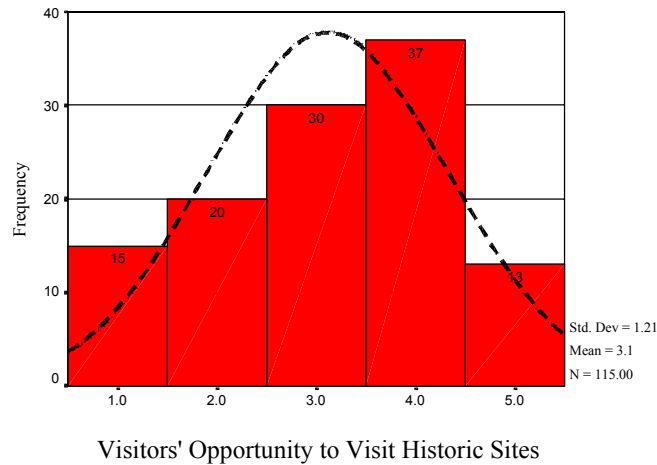


Figure (5- 7): Affect of "Opportunity to Visit Historic Sites" on Visitors' Selection of Beach Resort Destination

Factor (c): Swimming pool

The overall frequency indicates an average interest in a swimming pool as a factor for selecting a destination. The distribution of scores shows that the presence of a swimming pool was either not important or very important to visitors. This may be explained by the close proximity of the ocean for swimming. However, most waterfront beach resorts build at least one large swimming pool and sometimes up to three or four. Visitors may prefer pools to the ocean for safety reasons and to avoid the saltwater. A great deal of money goes into the construction and maintenance of a pool, and resource consumption (energy and fresh water replacement) is high (see Figure 5-8).

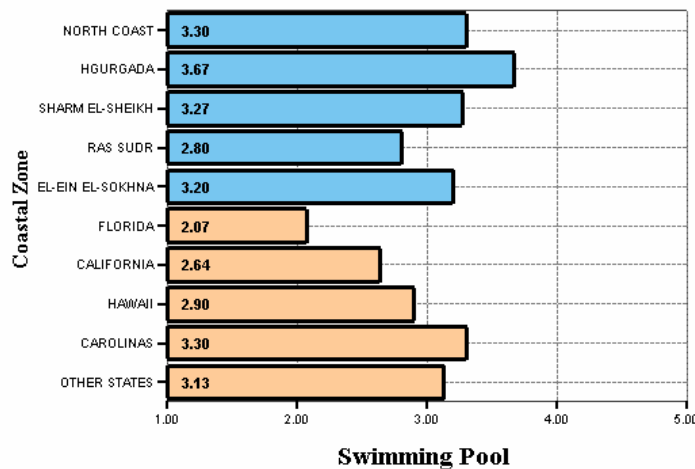
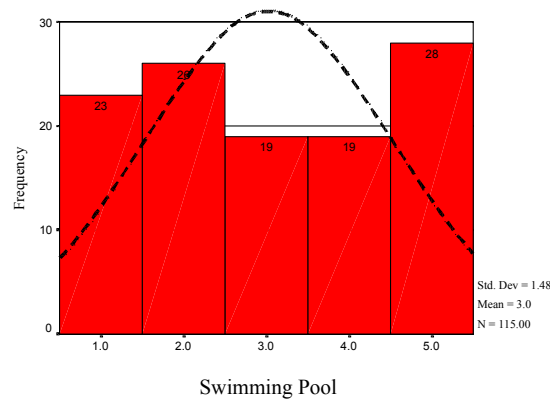


Figure (5- 8): Affect of "Existence of Swimming Pool" on Visitors' Selection of Beach Resort Destination

Factor (d): Cost

Cost is a very important factor in the respondents' decisions (mean=4.1) to visit a certain beach destination. In general, the majority of the respondents (41.74%) gave this factor a score of 4. In Egypt, the cost factor was a major concern among all respondents to all resorts, while in the American sample the cost factor varied significantly based on respondents' incomes. The selection of more expensive destinations such as Hawaii is often based on income. Results show that respondents with higher incomes were visitors to Hawaiian resort destinations (Figure 5-9).

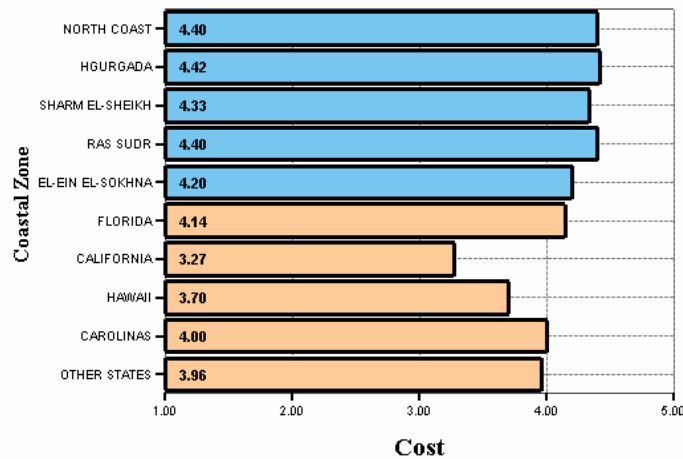
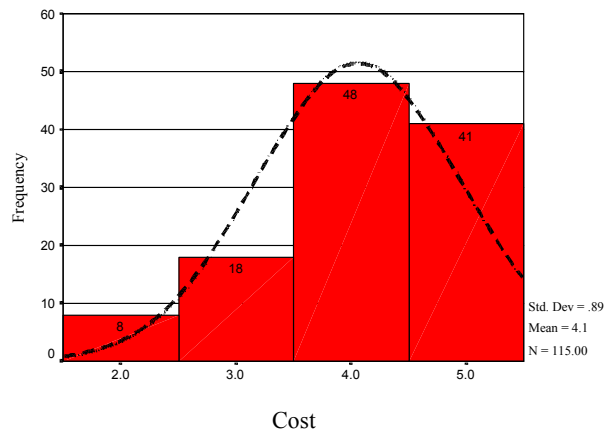


Figure (5- 9): Affect of "Cost" on Visitors' Selection of Beach Resort Destination

Factor (e): Size and quality of accommodation units

In general, there is a high level of concern (mean=3.8) among the total respondents. When compared with the following graph, the coastal zone resorts in Hawaii and the Sharm El Sheikh show that respondents have more interest in the nature of the place and its surrounding area than in its accommodations, buildings, and facilities (Figure 5-10).

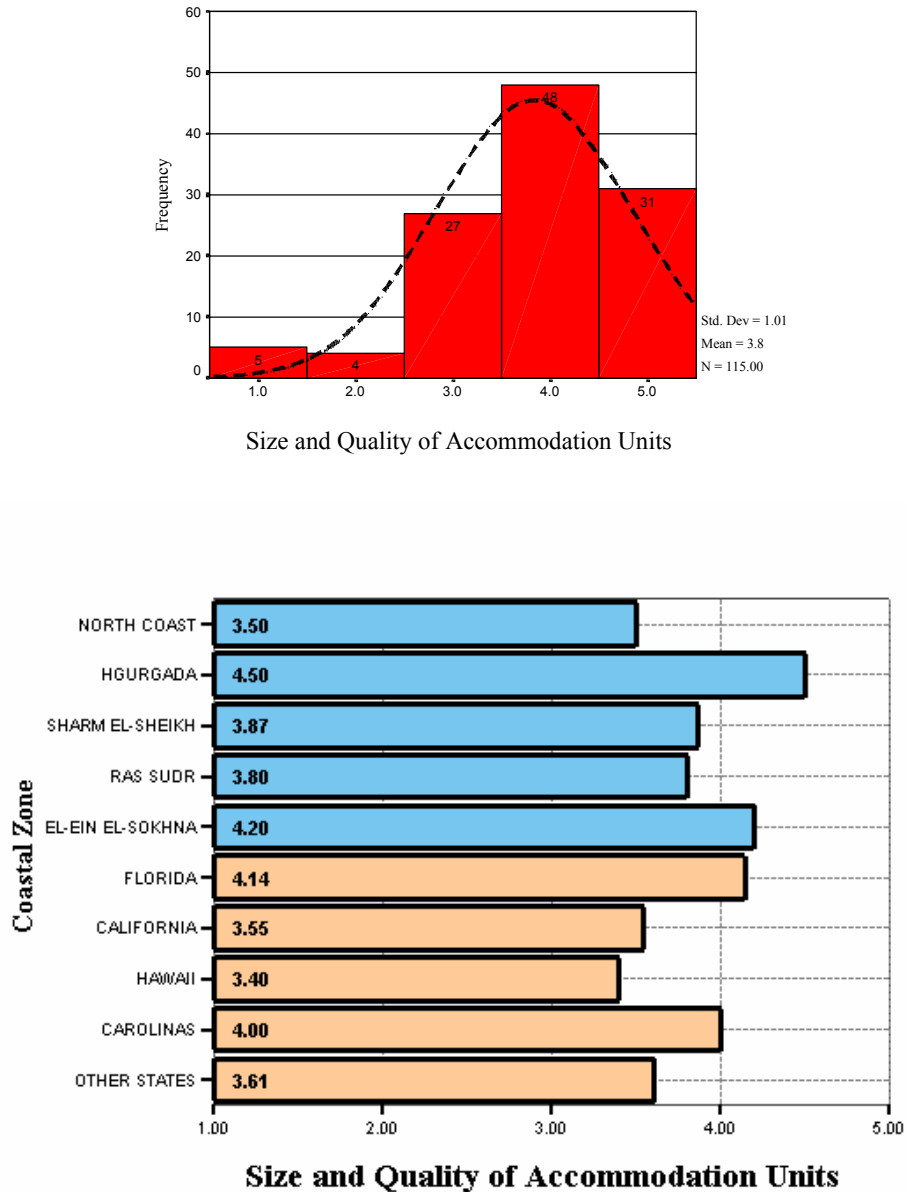


Figure (5- 10): Affect of "Size and Quality of Accommodation Units" on Visitors' Selection of Beach Resort Destination

Factor (f): Pleasant landscape

The overall frequency score (mean=4.1) reflected a high level of interest in landscape as a reason for selecting a certain destination. Hawaii resort destinations showed the highest score as they are known to possess beautiful landscapes. In fact, the Hawaiian landscape dominates visitors' images of Hawaii. Florida resorts also have beautiful scenes of landscape that attract people in the first place (Figure 5-11).

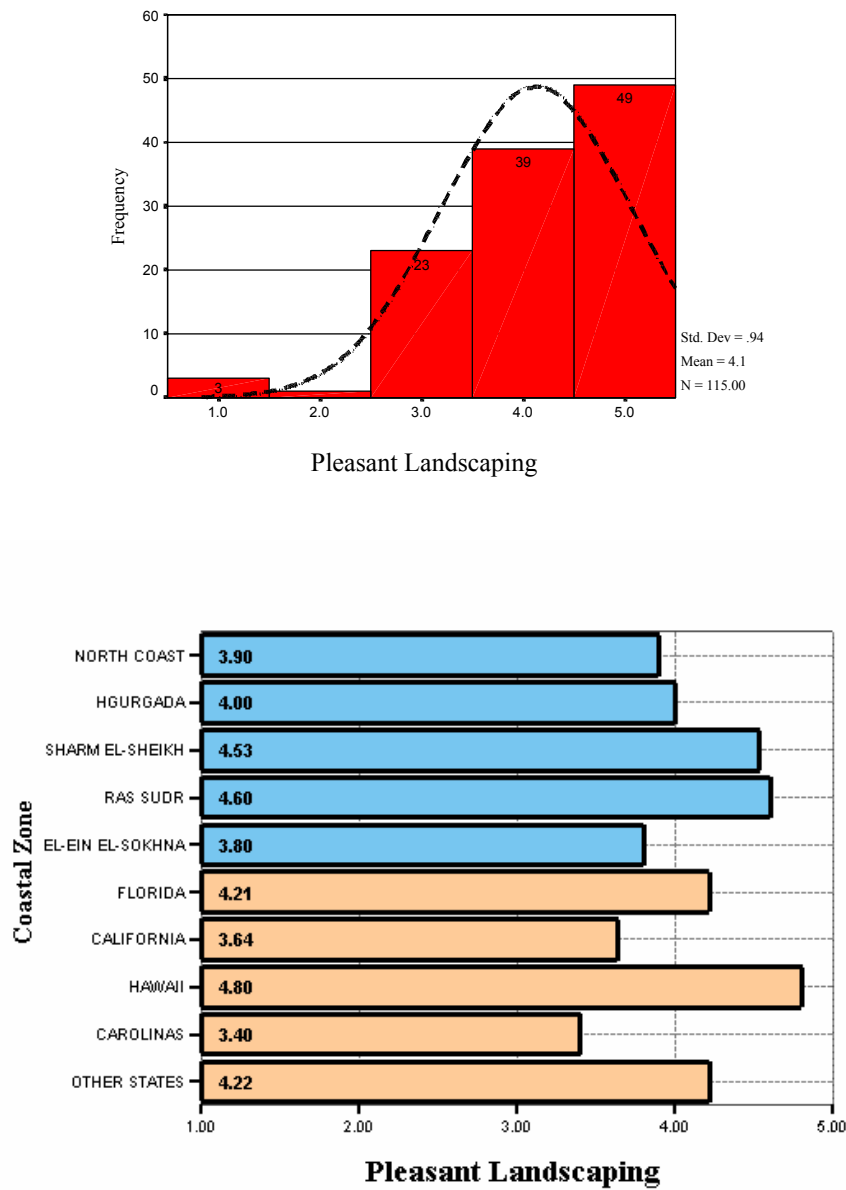


Figure (5- 11): Affect of "Pleasant Landscape" on Visitors' Selection of Beach Resort Destination

Factor (g): Opportunities to visit with others

The overall frequency scores (mean=3.0) fall in the average range for the factor of “opportunities to visit with others” as a reason for selecting a destination. The visitors to Egypt reported higher scores than the visitors to America. This may be explained by a social phenomenon in Egypt where people take advantage of summer vacations to visit with family and friends at the beach after a long year of work. Beach visits encourage distant friends to gather. This is very clear in the North Western Coast of Egypt, where most Egyptian individuals and families spend their summer (Figure 5-12).

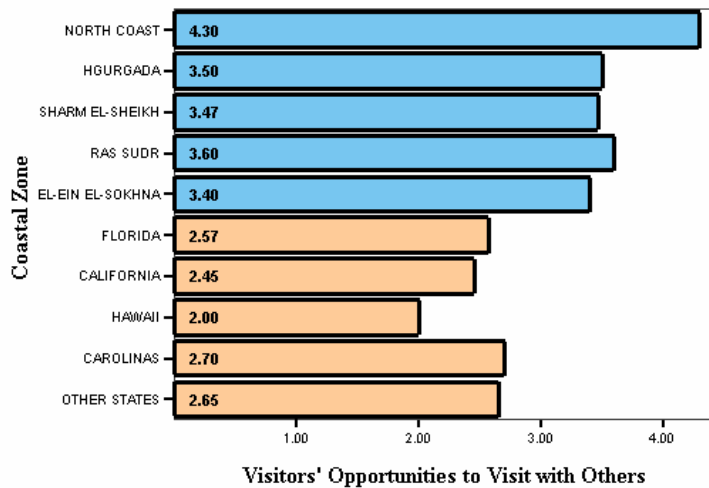
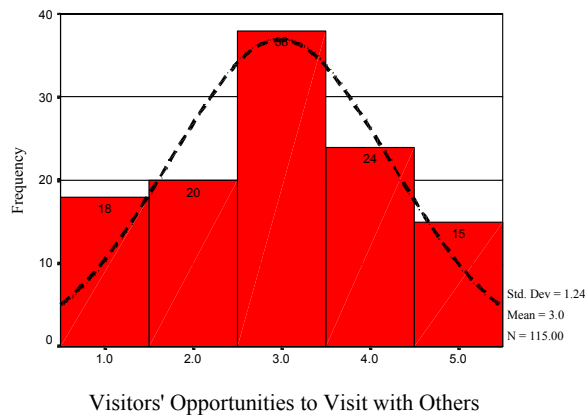
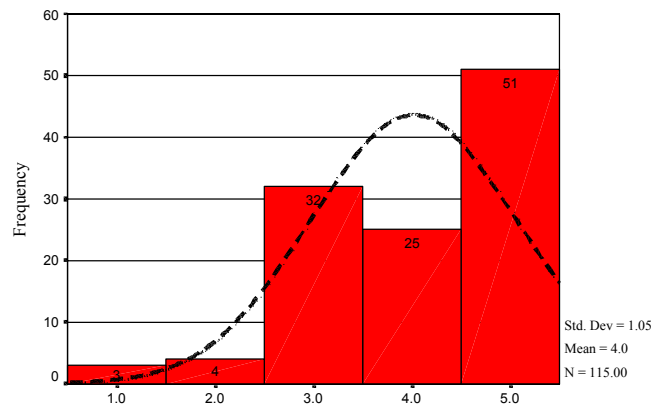


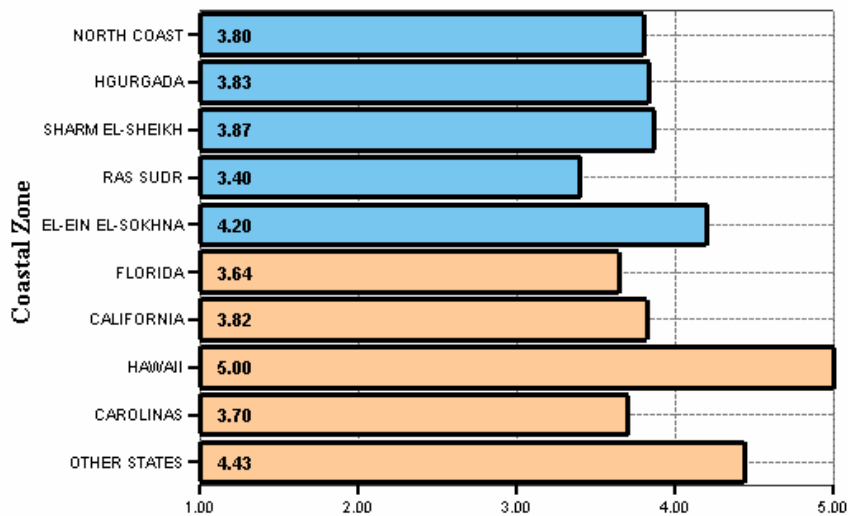
Figure (5- 12): Affect of "Opportunity to Visit with Others" on Visitors' Selection of Beach Resort Destination

Factor (h): Opportunities to view wildlife and nature

The opportunity to view wildlife and nature is a major factor (mean=4.6) in the overall respondents' decisions to visit a beach destination. This is particularly true in Hawaii and along the east coast of the United States. In the more industrialized world of the U.S., people have a greater desire to get in touch with nature. Respondents from El Ein El Sokhna placed the highest importance on wildlife and nature in Egypt (Figure 5-13).



Visitors' Opportunity to View Wildlife and Nature



Visitors' Opportunity to View Wildlife and Nature

Figure (5- 13): Affect of "Visitors' Opportunity to View Wildlife and Nature" on Visitors' Selection of Beach Resort Destination

Factor (i): Character of surrounding area

The overall respondent score (mean=4.1) reports that the character of the surrounding area has a high level of importance. The scores were more consistent for the Egyptian zones while the American zones varied significantly. The coastal resort zones in Hawaii and Sharm El Sheikh presented the highest scores as they possess the most pleasant surrounding environments (Figure 5-14).

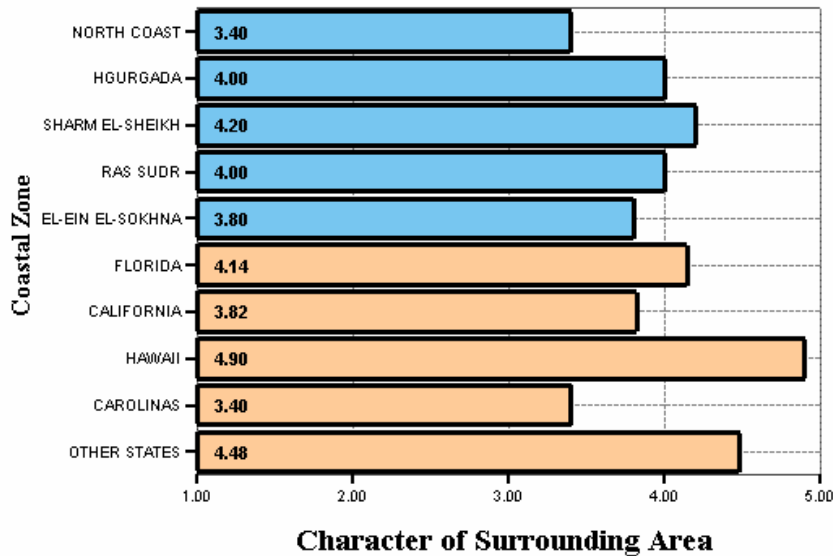
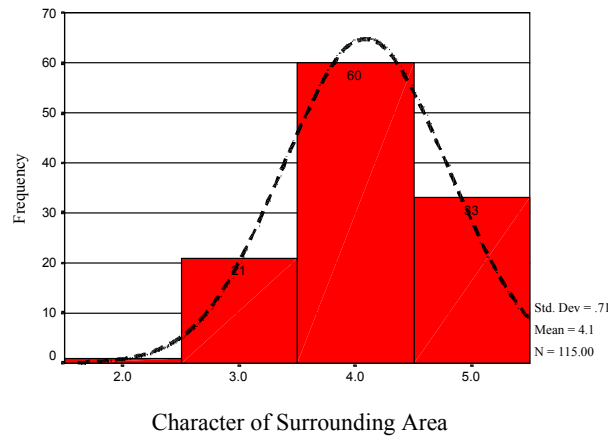


Figure (5- 14): Affect of "Character of the Surrounding Area" on Visitors' Selection of Beach Resort Destination

Factor (j): Opportunity for privacy

The overall frequency distribution shows a mean of 4.1, indicating a high level of importance placed on privacy when selecting a beach destination. Visitors are looking for a chance to be in their own world. Egyptian zones showed only slight variations, while Florida and the east coast states reported very high importance for privacy (Figure 5-15).

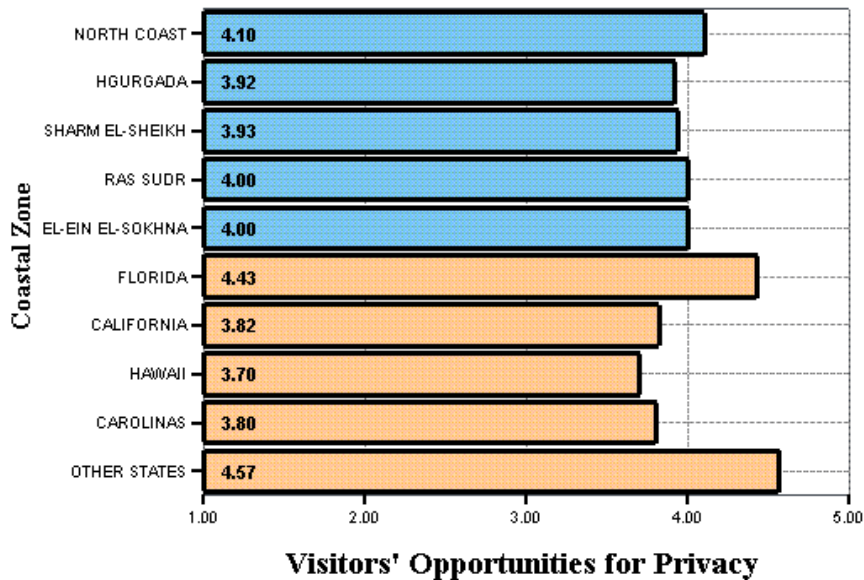
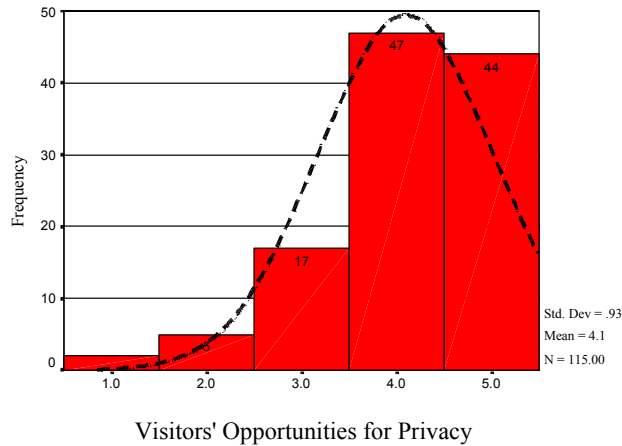


Figure (5- 15): Affect of "Opportunity for Privacy" on Visitors' Selection of Beach Resort Destination

Factor (k): Quality of local shops and restaurants

The overall frequency distribution indicates that the quality of the local shops and restaurants is of average importance to respondents (mean=3.6). American resort visitors consistently scored this lower than Egyptian resort visitors. This may be explained by the variety of shops and restaurants available to Americans wherever they live and vacation. For example, you can find a seafood restaurant in a small mountain village. This is quite different in Egypt where certain resorts specialize in unique foods and shopping experiences not found in other parts of the country. Respondents from Hurghada and the North Coast destinations in Egypt reported the highest level of importance for this factor (Figure 5-16).

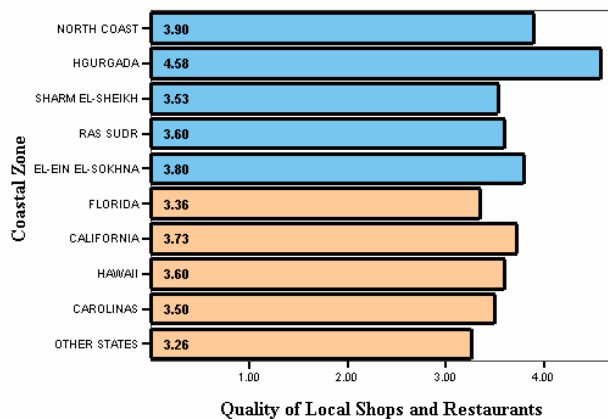
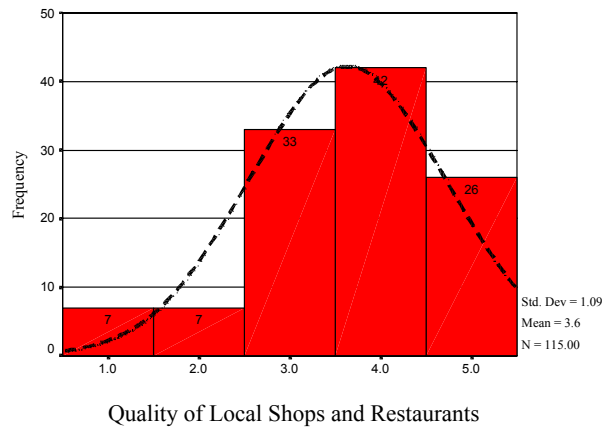


Figure (5- 16): Affect of "Quality of Local Shops and Restaurants" on Visitors' Selection of Beach Resort Destination

Factor (1): Opportunity for diving

The overall frequency distribution for the opportunity for diving factor shows a mean score of 3.3 indicating average importance when selecting a beach destination. Responses per coastal zone were quite varied, especially in the U.S. More importance was placed on this factor in Egypt. Responses may reflect the interests of ecotourists or sports enthusiasts who have a great interest in the aquatic world and wildlife. El Ein El Sokhna and Sharm El Skeik in Egypt showed the highest scores for this factor. Sharm El Sheikh is a well-known destination for diving and is of international interest for it is unique aquamarine wildlife and protected sanctuary area (Figure 5-17).

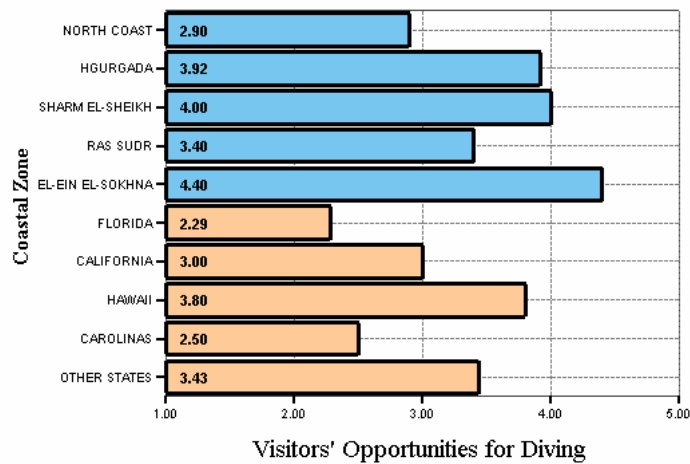
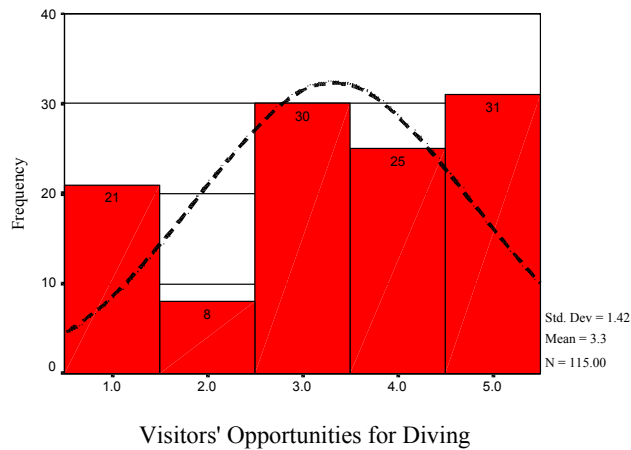


Figure (5- 17): Affect of "Opportunity for Diving" on Visitors' Selection of Beach Resort Destination

Factor (m): Opportunities for swimming in the ocean

The overall frequency distribution for the factor, opportunities for ocean swimming, indicated a high level of importance (mean=4.1) placed on this factor. In fact, 56 of 115 (48.7%) respondents scored this factor a 5.0. Many visitors select waterfront resorts for the purpose of swimming in natural water. This is especially true in the coastal zones of Sharm El Sheikh and Ras Sudr. Safety issues (high waves and sharks) may be a concern especially in the coastal zones of Florida and Hawaii (Figure 5-18).

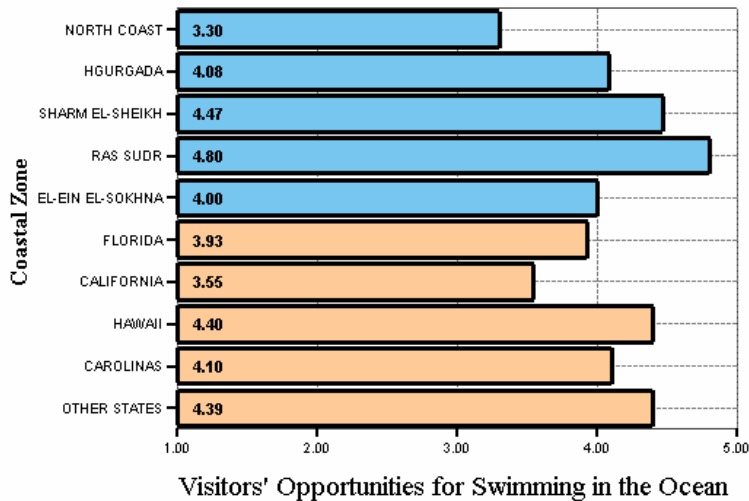
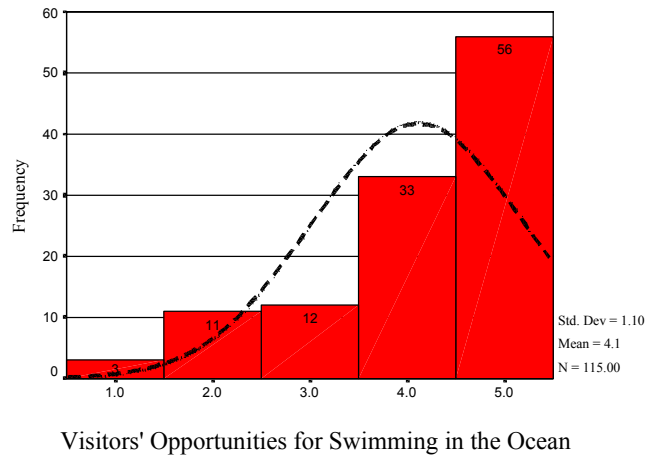


Figure (5- 18): Affect of "Opportunity for Swimming in the Ocean" on Visitors' Selection of Beach Resort Destination

Factor (n): Character of the architecture

Overall, the frequency distribution shows average importance placed on architecture as a factor for determining a beach destination. The overall mean was 3.7. However, the coastal resort zones in Hawaii, Ras Sudr, and Sharm El Sheikh placed more importance on local building style. Experiencing the uniqueness of the architecture style of an area influences the selection of visitors to beach areas when the architecture is unique and truly represents the local culture and identity (Figure 5-19).

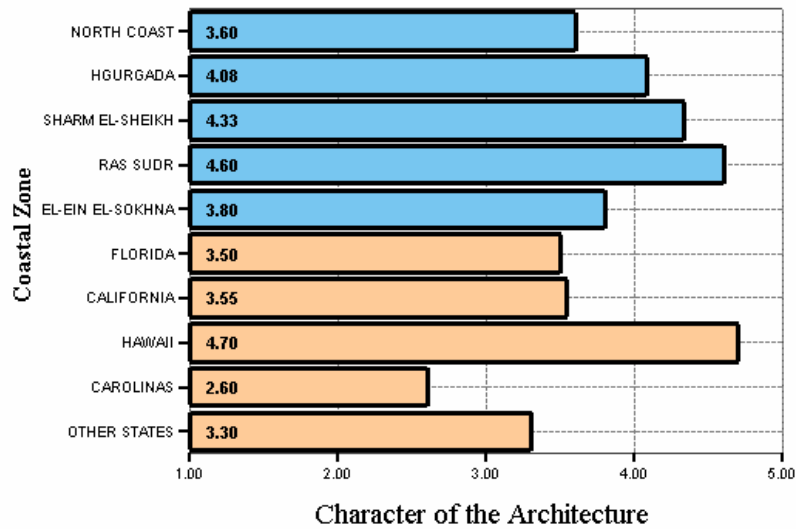
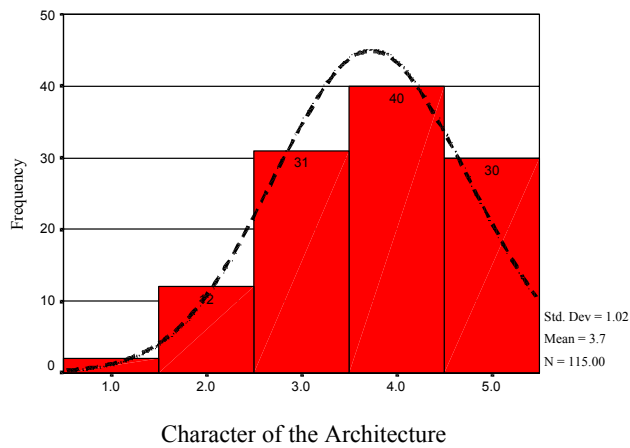
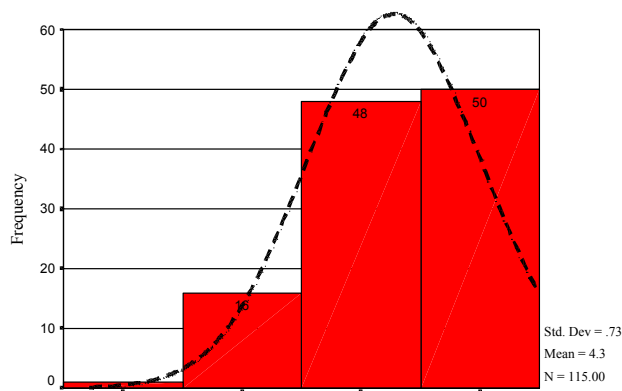


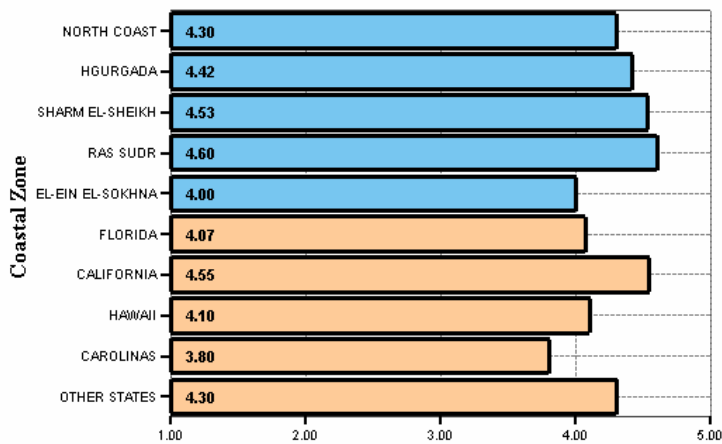
Figure (5- 19): Affect of "Character of Architecture" on Visitors' Selection of Beach Resort Destination

Factor (o): Opportunities for relaxation and reflection

This factor, the opportunity for relaxation and reflection, scored in the high range for importance (mean=4.3) overall. Our current world and life today is full of pressure and tension, therefore people visiting both American and Egyptian resorts seek areas that provide relaxation and relief from workplaces and living places. As a matter of fact, beach resorts have become main target for the majority of people looking to release tension. Visitors to California scored this factor (mean=4.5) as more important than other U.S. zones, perhaps reflecting their unusually hectic lifestyles (Figure 5-20).



Visitors Opportunities for Relaxation and Reflection



Visitors Opportunities for Relaxation and Reflection

Figure (5- 20): Affect of "Opportunity for Relaxation and Reflection" on Visitors' Selection of Beach Resort Destination

5.1.2. Designer

The total number of respondents completing the designer surveys was 75 designers, 36 designing Egyptian resorts and 39 designing American resorts.

Designer Demographics

The designer survey variables include: citizenship, gender, age, education level, and profession. These variables may influence the designers' attitudes toward environmental problems and sustainability ideas and concepts.

Citizenship

The vast majority of the American designers (87.2%) were originally American. On the other hand, it seems that designers worldwide participated in the designing of Egyptian resorts. 22.2% of the designers of Egyptian resorts were non-Egyptian (11.1% were American). Many have participated in the development of Egyptian resorts as a part of American/Egyptian Architecture firms cooperation program.

Gender

There were 51 male and 24 female designers in the entire sample. Designers in the study showed a different trend with greater female participation, 25.6% of the Egyptian resort designers and 38.9% of the American designers being female.

Age

Results showed that majority of American designers participating in the study (35.9%) were age 40 to 45 years old, while the Egyptian designers were typically (30.8%) age 51 to 60 years old. There were no designers over 60 years of age within the American sample.

Education

The majority of Egyptian (61.1%) had a graduate degree while the majority (82.1%) of those from American designers had a bachelor degree and only 17.9% had a graduate degree. As design and planning requires specific qualifications and higher levels of education there were no participants with Associate degrees in either group.

Profession

Many professions are included in the field of design and management. They may include: architects, planners, landscape architects, engineers, interior designers, building constructors, etc. Study participants designing and planning American and Egyptian resorts included many of these professional groups. The American sample revealed 46.2% architects, 15.4% landscape architects, 12.8% planners, 10.3% engineers, and 15.4% others (such as interior designers and building constructors). These proportions are slightly different for the Egyptian sample with 38.9% architects, 27.8% planners, 19.4% landscape architects, 11.1% engineers, and only 2.8% from other professions.

Designers Professionals

Length of Experience

This demographic factor is very important because it may best reflect the experience and the knowledge of the needs associated with the evaluation and monitoring of the current situation, and how the environmental and cultural issues can be addressed by incorporating them into the setting under development. This factor measures the number of resorts participants designed, and reflects the number of years they have worked in the area of design beach resorts. The majority of the American designers (51.3%) have 11-20 years of experience, while the majority of Egyptian designers (44.4%) have only 3-5 years of experience. There were no participants in the American sample that had only 1-2 years experience while 13.9% of Egyptian resort participants were new to the field. The proportion of the American sample with experience of 21 years or more (20.5%) was much higher than in the Egyptian sample (2.8%). The majority of the American resort designers (43.6%) participated in the design of 6-10 resorts, while the

majority of Egyptian resort designers (47.2%) had participated in the design of 2-3 resorts. No American site participants had only designed one resort but 13.9% of Egyptian site participants had this little experience.

Number of employees

This factor clearly reflects the size of the design firm. Designers in both countries had from 2-30 employees. This sometimes reflected budget factors and a businesses' ability to feasibly maintain standards.

Environmental Concerns

Designers and managers concerns about the environment are addressed for the following issues:

- 1) a) national application of environmentally sensitive developments;
- 2) b) significance of solving current environmental problems;
- 3) c) most important issues surrounding the development of environmentally sound resorts;
- 4) d) their own design and management practices (with examples);
- 5) e) what more they could do to enhance their practices;
- 6) f) major obstacles to responding effectively to environmental conservation principles;
- 7) g) incorporation of sustainability principles into the current design and management practices and the importance of doing so; and
- 8) h) major obstacles to incorporating sustainability principles in current design and management.

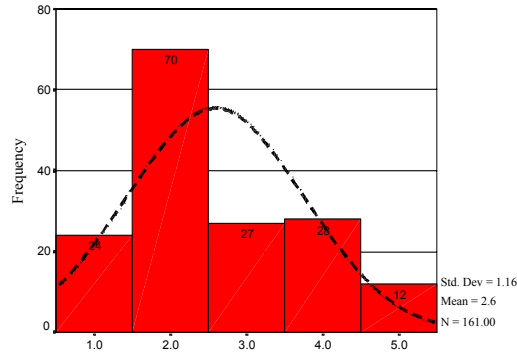
Environmental Concern and Sustainability Potential³

These concerns may influence the designers/managers' perceptions of environmental problems and sustainability ideas and concepts.

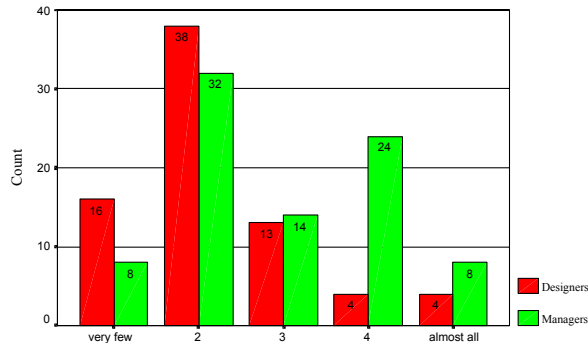
³ Each "Figure" included in this section consists of three graphs for each factor under analysis: a) the first figure illustrates a bar graph with a fit smooth curve showing the general tendency of the whole sample; b) the second figure illustrates a bar graph for individual participants comparing responses from two groups, "Designers" and "Managers"; and c) the third figure illustrates a bar graph for individuals comparing responses of participants from the U.S. and Egypt.

a) the national application of environmentally sensitive developments

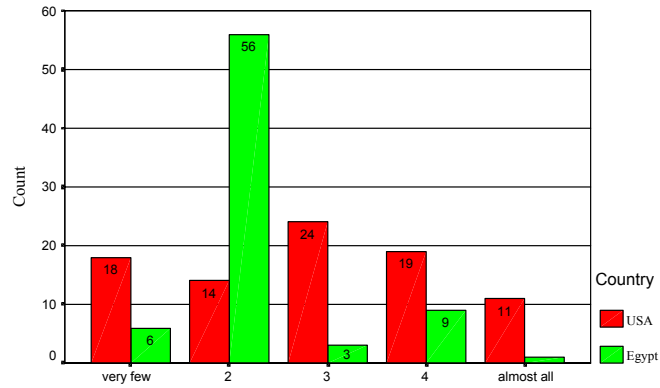
The majority of the respondent indicated that “very few” current developments applied environmentally sensitive practices to their resorts. This value is clear in the Egyptian sample as 56 out of 75 (74.6%) designated low value for the environmental quality of the current situation in Egypt. In both countries, designers showed lower degrees of satisfaction with the current development pattern than did managers (Figure 5-21).



Applicability of environmentally sensitive development



Applicability of environmentally sensitive development

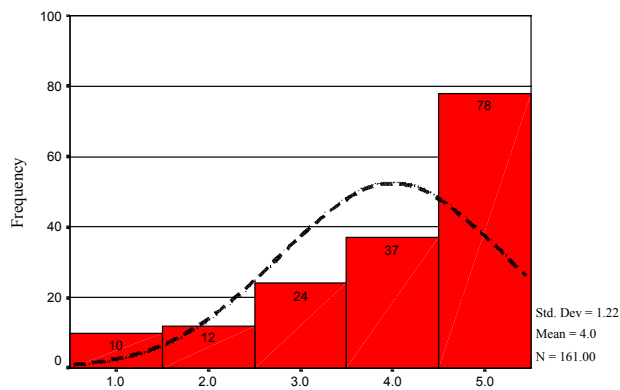


Applicability of environmentally sensitive development nationally

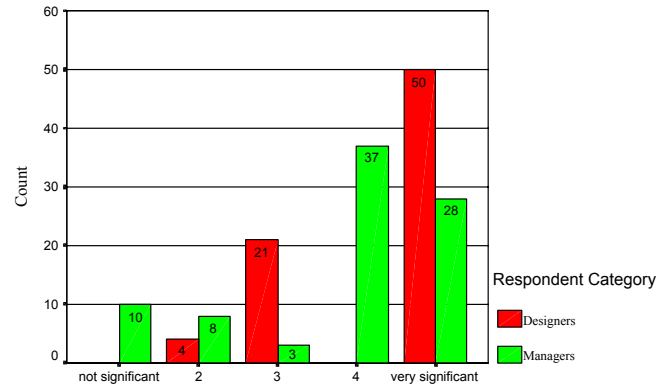
Figure (5- 21): The National Application of Environmentally Sensitive Developments

b) The significance of solving current environmental problems

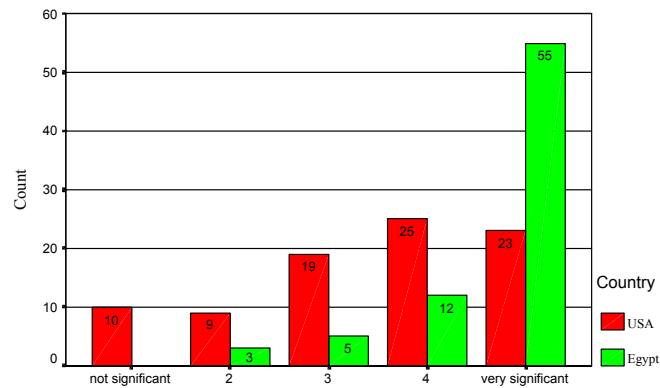
Designers believe generally in the role of sustainability implementations for solving current environmental and cultural problems. The Egyptian sample reported a very high level of importance placed on sustainability (Figure 5-22).



Design/management role in solving environmental problems



ificance of design/management in solving environmental problems

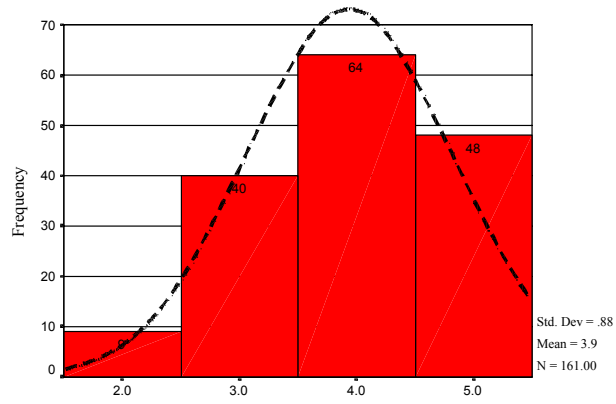


Significance of design/management in solving environmental problems

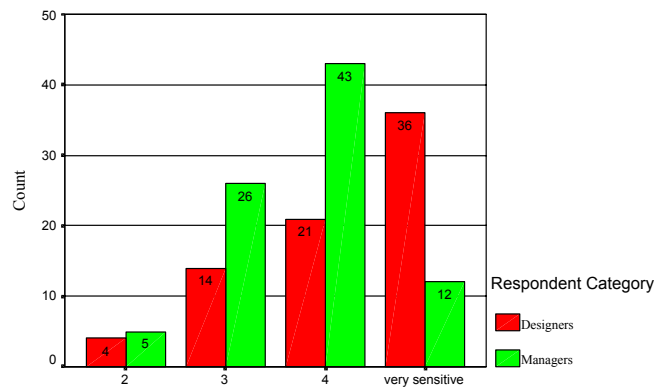
Figure (5- 22): The Significance of Sustainability Implementation in Solving Environmental Problems

c) The most important issues surrounding the development of environmentally sound resorts

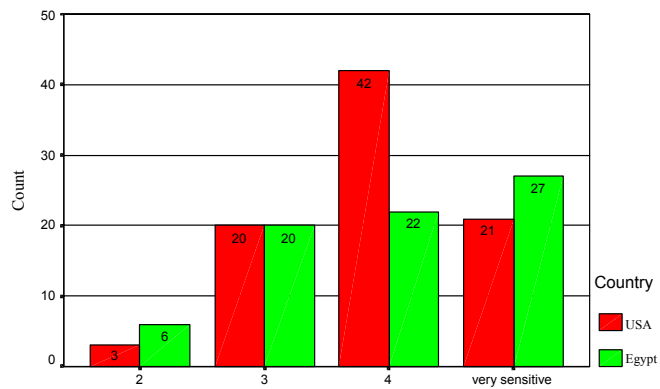
Respondents were asked to rate how well they themselves are doing in relation to environmentally sensitive development. The same groups rated the quality of resort developments nationwide as very low, but rated the quality of the design or the management of their own resorts much higher. Perhaps this reflects human nature’s tendency to portray oneself in a better light.



Environmental sensitivity of the current resorts



Environmental sensitivity of the current designed/managed resorts

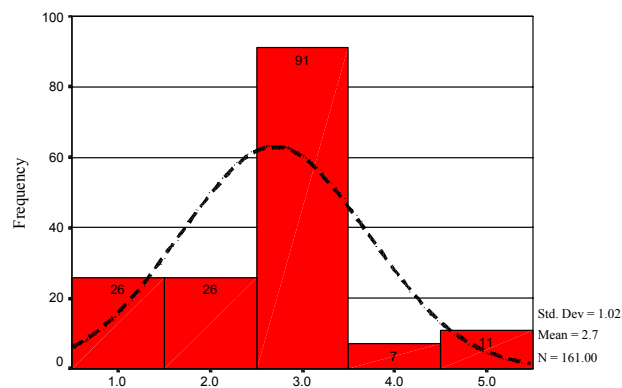


Environmental sensitivity of the current designed/managed resorts

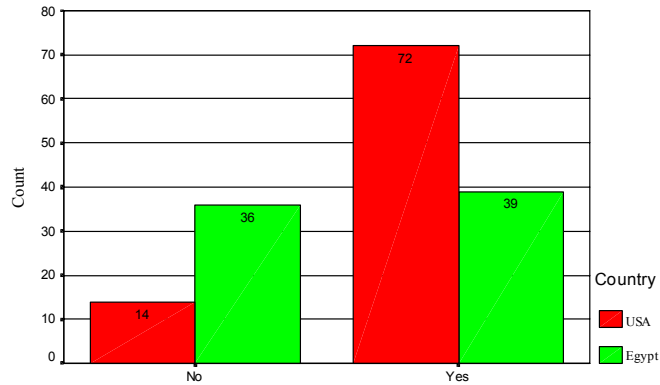
Figure (5- 23): The Current Design and Management of Beach Resorts Responses to Sensitivity of the Environment

Incorporation of Carrying Capacity, Life Cycle, Ecotourism, and Sustainability

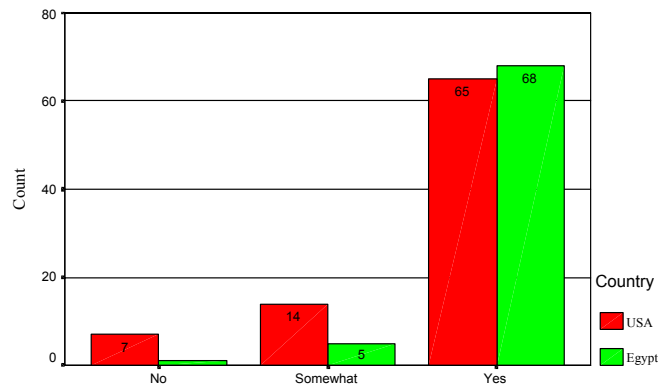
The majority of managers and designers, 120 out of 161 (74.5%), indicated “Yes” that they have used ideas that are related to carrying capacity, product life cycle, and/or ecotourism in their design or management of a beach resort. The same level of concern was indicated in their response to sustainability issues as the majority of respondents (111 or 68.9%) indicated that they had incorporated sustainability principles in their design or management of beach resorts. However, the Egyptian respondents showed less concern than American respondents (39 and 2 respectively). Almost the same proportion of respondents indicated that incorporating sustainability principles into development is important in solving environmental issues and in improving the quality of the resort environment. 27.3% reported moderate importance to sustainability principles as a solution for the current environmental problems they are facing, and a few (.04%) reported sustainability principles had no significance at all. This in fact agrees with their responses on their familiarity with the term sustainability as 120 (74.5%) indicated they had knowledge of its meaning (Figure 5-24).



Incorporation of sustainability into the current developments



Incorporation of sustainability into the current designed/managed resort



Familiarity with the "Sustainable Development" concept

Figure (5- 24): Familiarity and Incorporation of Sustainability Design Principles and Management of Resorts

5.1.3. Managers

The total number of respondents completing the manager survey was 86 managers, 39 managing Egyptian Resorts and 47 managing American resorts.

Manager Demographics

The manager survey variables include: citizenship, gender, age, and education level. These variables may influence the managers' attitudes toward environmental problems and sustainability ideas and concepts.

Citizenship

The vast majority of the American managers (93.6%) were originally from America. On the other hand, it seems also that managers worldwide participated in the management of Egyptian resorts. 46.2% of resort managers in Egypt were non-Egyptians and 28.2% were American managers working in Egyptian resorts. In fact, this is reflected in the great number of big international hotels and resort chains that design and operate resorts and hotels along the Egyptian coastal zones, for example, Marriott, Sheraton, Hilton, Hyatt, Sonsta, etc.

Gender

There were 68 male and 18 female managers in the entire sample. There were 51 male and 24 female designers in the entire sample. The majority of managers in Egyptian resorts were male (91.5%) and only 8.5% were female. However, this percentage changes significantly in American resorts with 64.1% male and 35.9% female managers.

Age

The largest proportion American managers participating in this study were age 60 or over (25.5.7%) while the largest group of the Egyptian managers were between the ages of 41 and 45 years old (35.9%).

Education

The majority of the Egyptian management respondents (64.1%) had a Bachelor's degree, while 68.1% of the American managers had this degree. Results indicated that those working in the design and planning of Egyptian beach resorts have attained a higher level of education than the American designers.

Managers Professionals

Length of Experience

This demographic factor is very important because it may best reflect the experience and the knowledge of the needs associated with the evaluation and monitoring of the current situation, and how the environmental and cultural issues can be addressed by incorporating them into the setting under development. This factor measures the number of resorts participants managed, and reflects the number of years they have worked in the area of beach resorts management. The majority of the American resort managers (34%) had 3-5 years experience while the majority of the Egyptian resort managers had only 1-2 years of experience. None of the Egyptian managers indicated more than 21 years experience while 27.7% of the American managers had these years of experience. The lesser experience of Egyptian resort managers may be explained by the relatively small development size and the fact that the development of beach resorts along the Egyptian coastal zones was only initiated as early as 20 years ago, increasing rapidly within the last decade. In the management arena, the majority of American resort managers (44.9%) had managed 2-3 resorts, while 38.5% of Egyptian resort managers had managed only one-two resorts. No Egyptian resort manager had managed more than 11 resorts while 2.1% of the American participants reported having this experience.

Number of employees

This factor clearly reflects the size of the resort and results varied significantly. Managers in Egyptian resorts managed 20 to 500 employees and managers in American resorts managed 4 to 650 employees. This sometimes reflected budget factors and a businesses' ability to feasibly maintain standards. The number of employees in management and operation of a resort depends mainly on the number of rooms. (WTO estimated the number of jobs created by a hotel or a resort as 1.5 times the number of rooms for direct jobs, and 3 times of the number of rooms for indirect job opportunities that support tourism industry and services).

5.3. EFFECTIVENESS REGULATIONS AND LAWS

This section will present and discuss the effectiveness of regulation and laws in the natural environment and in the cultural environment. This section will also present how regulation and laws may restrict the ability of the individuals, designer or managers, in to develop sound coastal resorts.

Protecting Natural Environment

In testing the attitude of respondents toward the effectiveness of laws/regulations in protecting the "natural environment" Egyptian designers and managers perceived a moderate level of effectiveness with no extremes, while both American designers and managers perceived low levels of effectiveness and were worried that laws and regulations may not be enough (Figure 5-25).

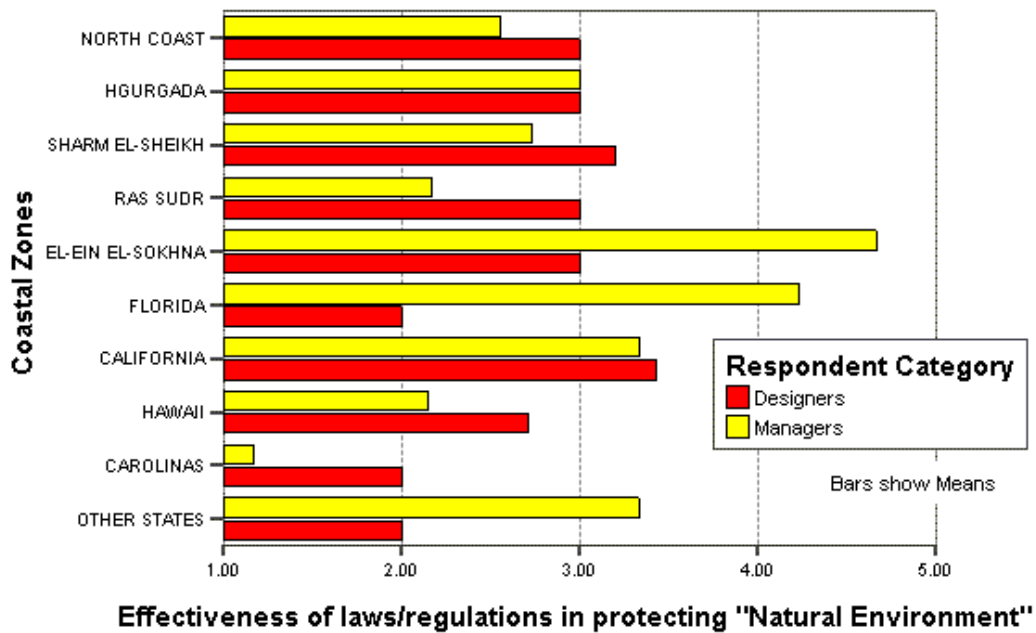


Figure (5- 25): Effectiveness of Laws and Regulations in Protecting the “Natural Environment”

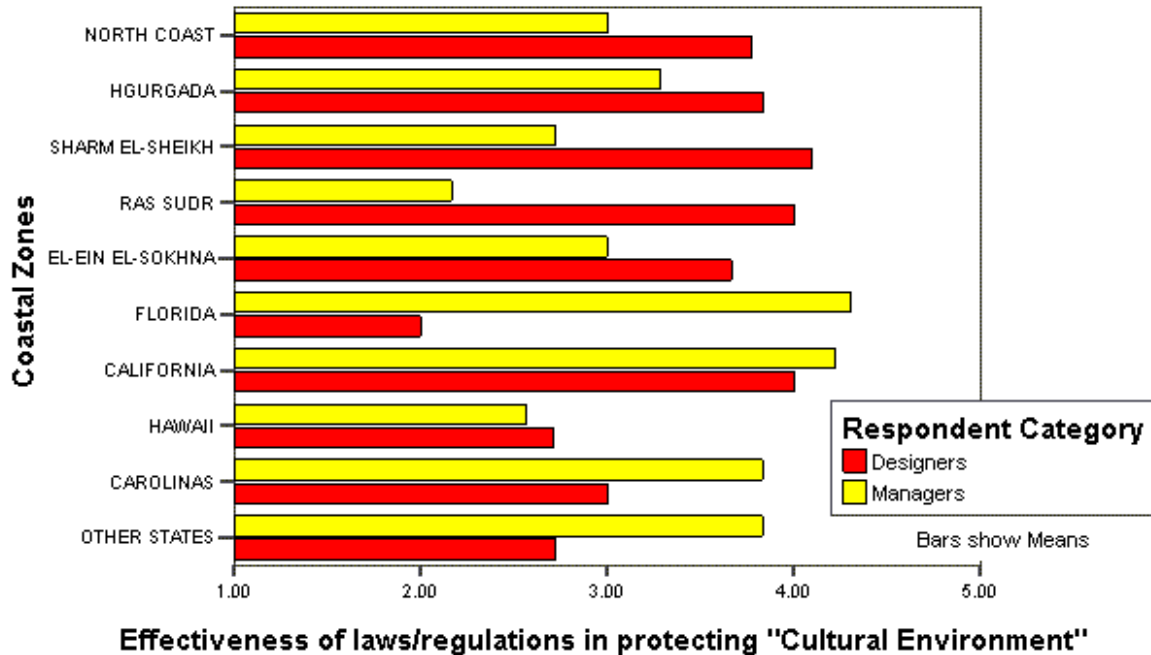


Figure (5- 26): Effectiveness of Laws and Regulations in Protecting the “Cultural Environment”

Protecting Cultural Environment

Designers from Egypt perceived that laws/regulations were moderately effective in protecting the "cultural environment" (mode = 4), while American designers perceived a fair to moderate effectiveness level. These values were reversed for resort managers. Managers from Egypt perceived a moderate level of effectiveness (mode = 3), while managers from America perceived higher levels of effectiveness.

Respondents (Figure 5-26) indicated a moderate level of importance placed on current laws and regulations as effective ways to protect cultural and natural resources. This

points to the importance of reviewing the current regulations and establishing a new vision for quality planning and design regulations. The American sample showed a stronger belief in the effectiveness of regulations and laws for developments than the Egyptian sample.

Regulation and Laws Restriction

Regulations and laws established mainly to protect the cultural and natural environment can restrict the ability of designers and managers to develop successful and environmentally sound resorts. (Note: The scale for this question is reversed with the value of “1” = not restricted, and the value of “5” = very restrictive). The total sample showed a moderate tendency to support the “existence” of these regulations in favor of “none.” There was no clear difference between designer and manager responses (Figure 5-27).

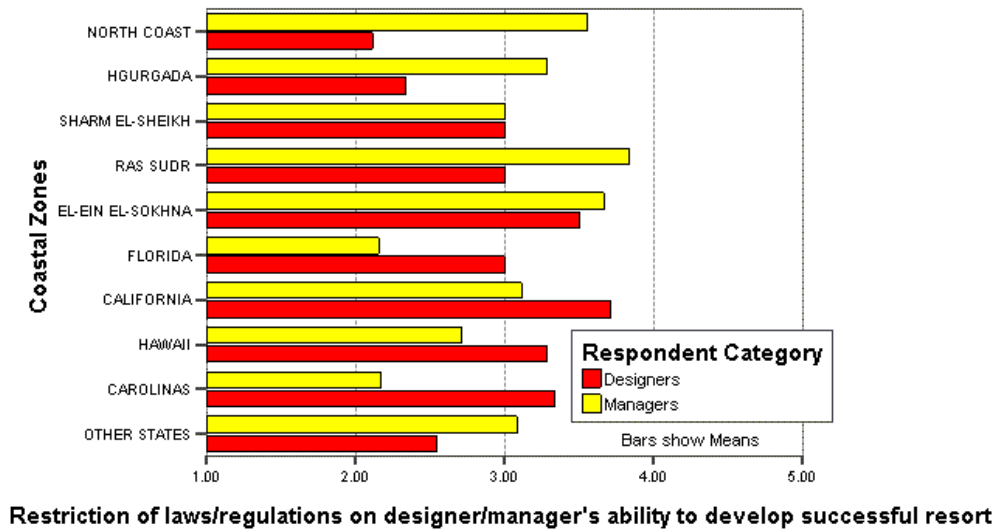
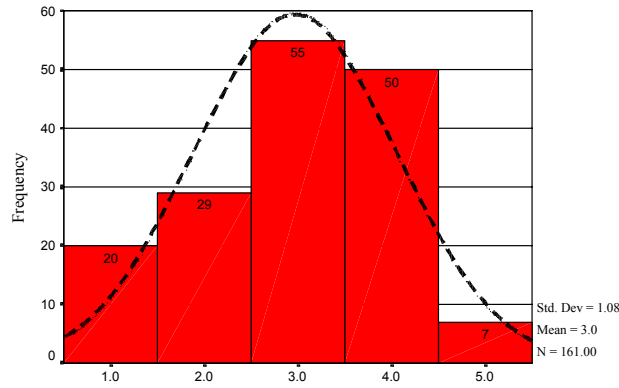
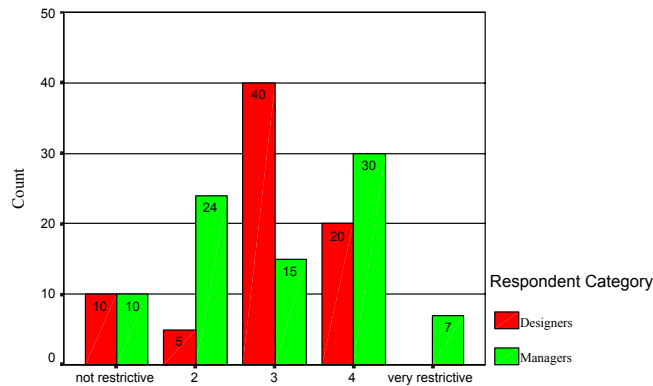


Figure (5- 27): Restriction of laws and Regulation on Designers/Managers’ Ability to Develop Successful Resorts (by coastal zones)



Regulation restriction on designers/managers' ability



Restriction of laws/regulations on designer/manager's ability to develop

Figure (5- 28): Restriction of Laws and Regulations on Designers/Managers' Ability to Develop Successful Resorts (by participant category)

In testing responses to the restriction of laws/regulations on designer/manager's ability to develop successful resorts (Figure 5-28), American managers showed high degrees of satisfaction with the laws/regulations indicating the perception that they did not restrict the ability of designers/managers to develop successful resorts. Both Egyptian designers and managers were not satisfied with the existing regulations and laws, indicating they restricted the development abilities of designers and managers and needed to be updated.

To identify the differences between Egypt and US, a two independent samples (t-test) were applied to compare the differences of means between the US and Egyptian attitudes toward the current regulation and laws relevant to their ability to protect the: 1) "cultural environment,"

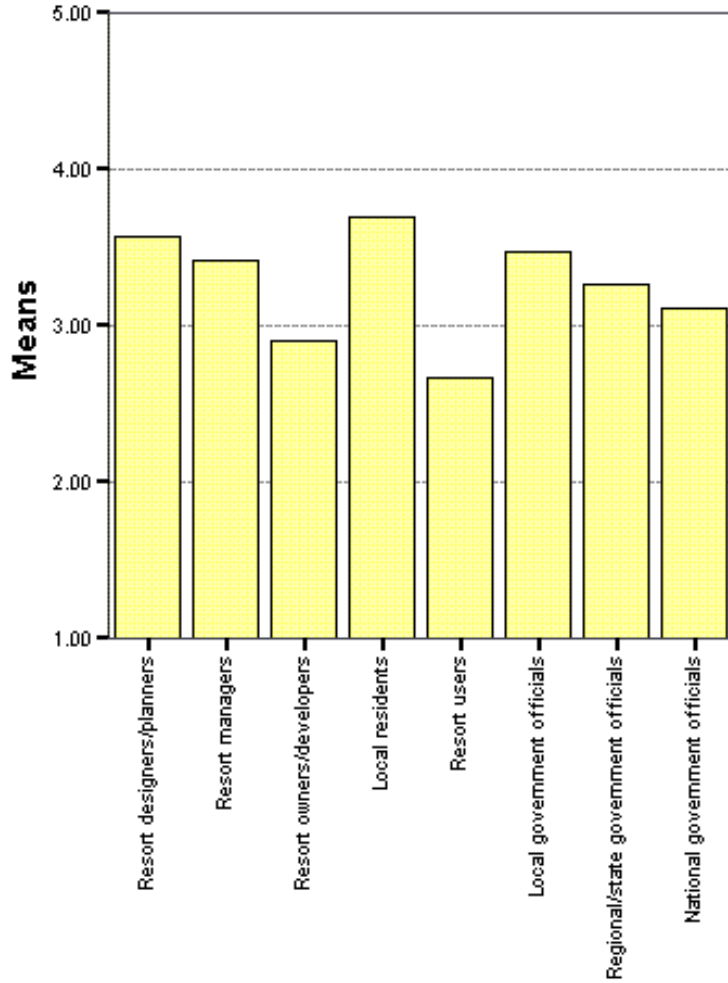
2) "natural environment," or 3) restrict designer/manager's abilities to develop successful resorts. A sample of 39 designers from the US and 36 designers from Egypt, at 0.05 confidence level, showed that there are significant differences of their attitudes toward the effectiveness of laws/regulations in protecting the cultural and natural environments, but no significant differences was found in their attitudes toward the restriction of the current laws/regulations on their design ability to develop successful resorts.

The results of a manager sample of 47 from the US and 39 from Egypt showed significant differences in their attitudes that laws/regulations were effective in protecting the "cultural environment," but there were not significantly different in their attitude toward the effectiveness of the current regulation and laws in protecting the "natural environment." Also, it was found that their attitude toward laws/regulations restricted the manager's ability to develop successful resorts was significantly different for the managers in the two countries.

5.4. INDIVIDUALS AND GOVERNMENT OFFICIALS CONTRIBUTION

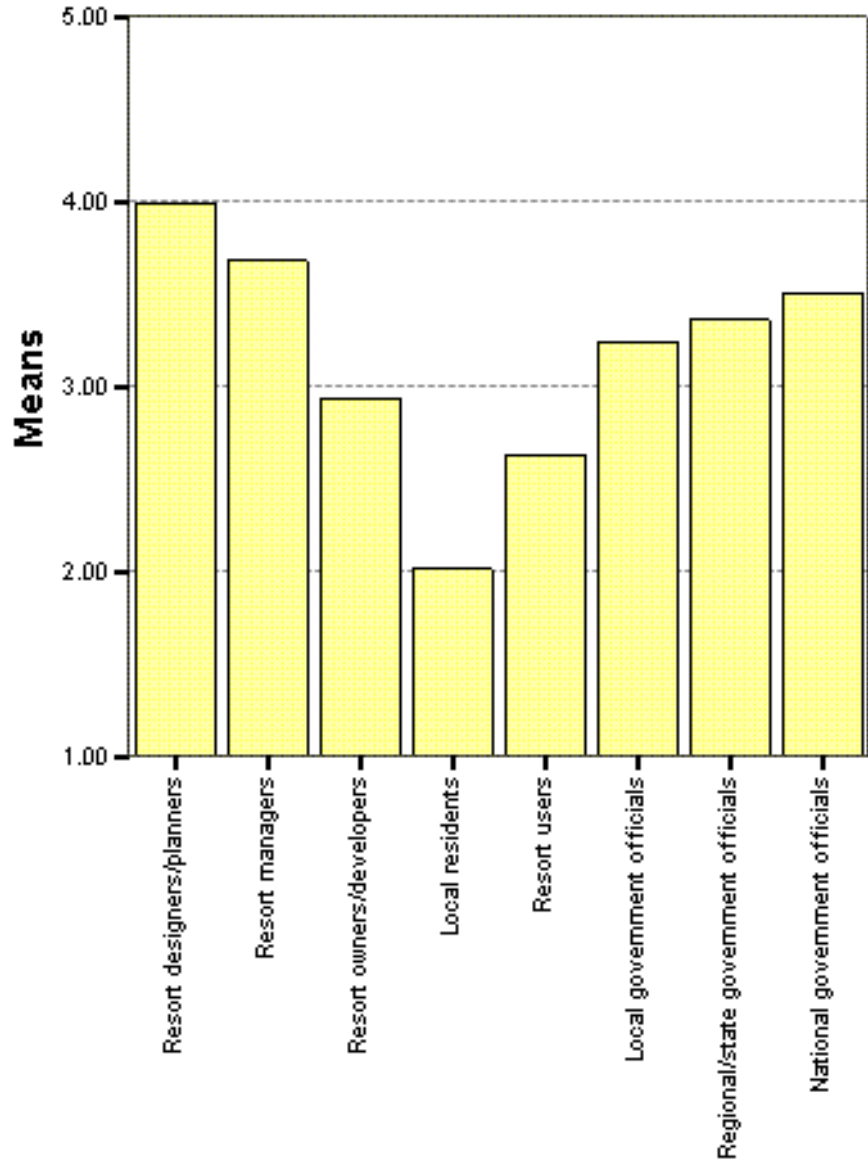
One important dimension of the "Sustainable Design Model" is the role of individuals and groups. The perceptions of designers and managers were measured on the role of eight individuals and groups (resort designers/planners, resort managers, owners/developers, local residents, resort users, local government officials, regional/state government officials, national government officials) on two main issues: 1) the development of environmentally sensitive coastal resorts; and 2) the implementation of sustainable coastal resort development. Figure (5-29) illustrates the mean values of the perceptions of the US and Egyptian respondents' on the role of the eight stakeholders.

Country : USA
Statistics : Mean



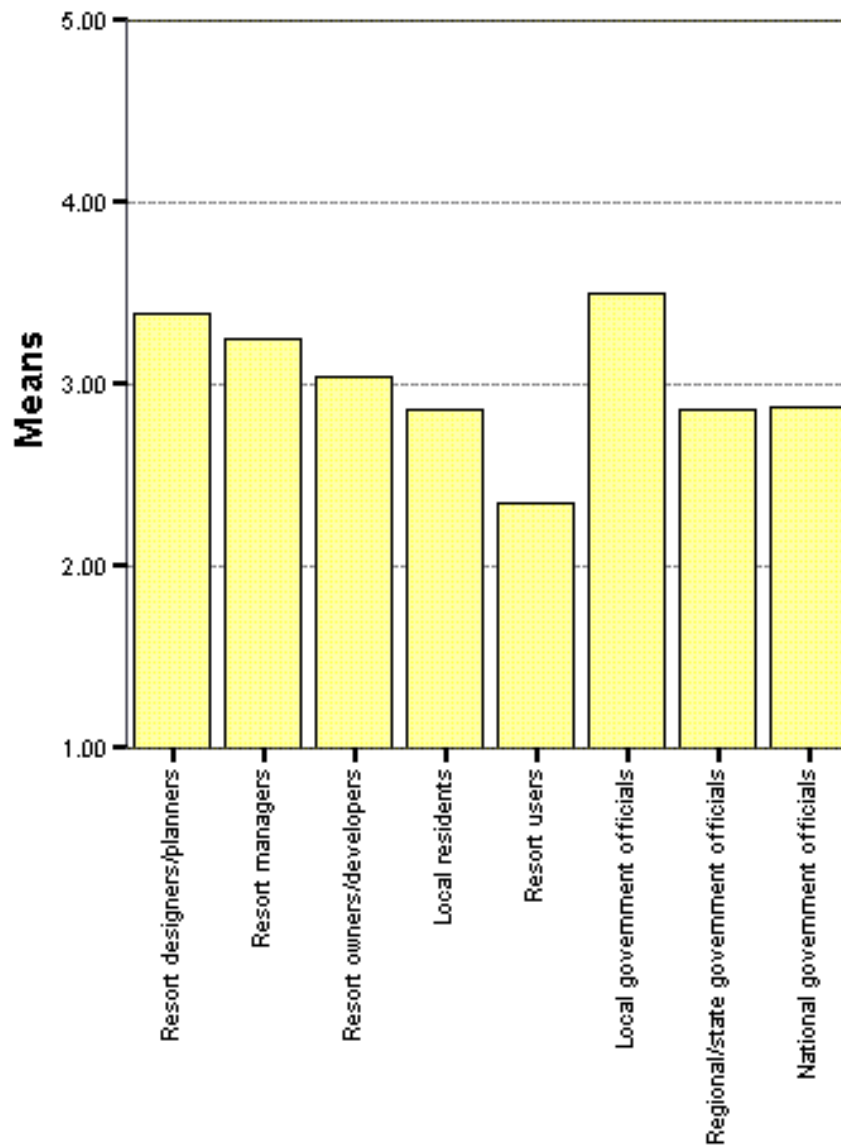
**Concerns about Environmentally Sensitive
Resort Developments**

Country : Egypt
Statistics : Mean



**Concerns about Environmentally Sensitive
Resort Developments**

Country : USA
Statistics : Mean



Concerns about Sustainable Development Resorts

Country : Egypt
Statistics : Mean

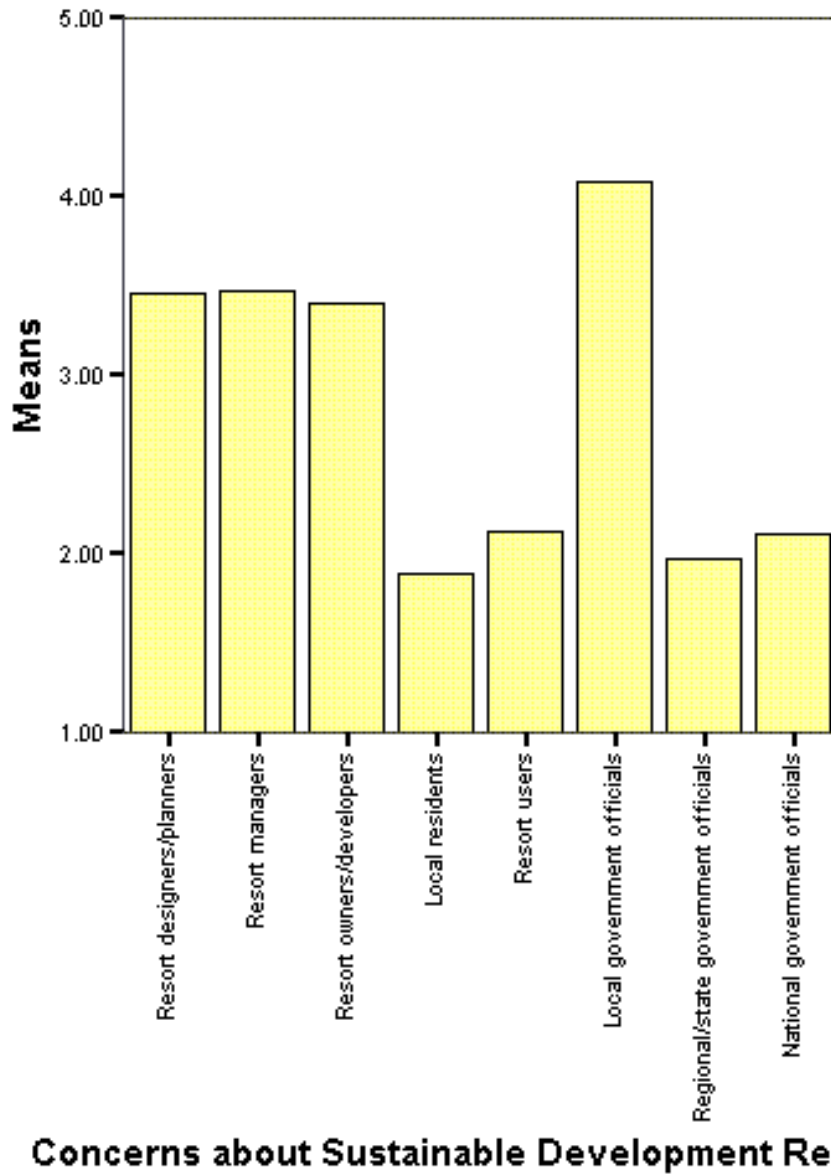


Figure (5- 29): The Mean Values of Perceptions of US and Egyptian Respondents - Role of Eight Stakeholders

ANOVA Test

A multivariate ANOVA test was applied twice, the first test was applied to the two countries testing the interaction of designers and manager respondents separately; the second test was applied to the two countries with the composite scores of designers and managers together. Results of significance for the two tests are shown in Table (5-2).

Table (5- 2): Individuals & Government Official Groups Concerns about Resort Development

Individuals and Government Official Groups	a. Concerns about Environmentally Sensitive Resorts		b. Concerns about Sustainable Development Resorts	
	Designers	Managers	Designers	Managers
Resort designers/planners	1	0	0	0
Resort managers	0	0	0	0
Owner/developer	1	0	1	0
Local residents	1	1	1	0
Resort users	0	0	1	0
Local government officials	1	1	1	0
Regional/state government officials	1	1	1	0
National government officials	1	1	1	0

The table key: (1) a significant difference between respondents' attitudes from Egypt and USA

(0) not significant

5.5. UNDERSTANDING SUSTAINABILITY IMPLICATIONS

The 276 total respondents, there were 154 from USA and 122 from Egypt. The results of participant's familiarity with the concept of sustainability indicated that among the three groups designers were very familiar with the concept of sustainability as (97.3%) while managers and visitors indicated lower levels of familiarity (69.8% and 78.3% respectively). Egyptian respondents showed higher familiarity levels (88.5%) than American respondents (74.7%). However, many American respondents provided their own definition of the term (in the open-ended question section) while respondents from Egypt did not. The US designers showed a better understanding of the sustainable development concept and they provided a short definition of what they believed sustainable development means. Selected examples from the US responses are provided below:

“Use of materials and methods to produce environmentally sound development.”

“To be sustainable, any project in any industry or world-wide location must be in harmony with both local nature and local culture.”

“The ultimate goal is to create an economy while eliminating (or at least minimizing) adverse cultural and environmental impact. When this is achieved, sustainability has the potential to succeed (no guarantees). The further aware from the project's focal point that decisions are made - both physically and spiritually - the lower the project's chances of sustainability.”

“Designing with intent for low environmental impact, relative safety from flooding, and low need for vegetation maintenance (e.g., use native species, not lawns) over the long term.”

“Economic production that will produce benefits in the present without reducing future benefits.”

“To ensure future generations are not tied into economic development burdens imposed on them by predecessors.”

“To carry things forward beneficially for all into the future”

“The systematic re-balancing of modern society's economics with the dictates of its natural and human ecological bases of support.”

5.6. SUMMARY OF THE SURVEY RESULTS AND FINDINGS

5.6.1. Visitors Attributes and Concerns

The total number of respondents completing the visitor survey was 115, including 47 visiting Egyptian Resorts (44.4%), and 68 visiting American resorts (55.6%). For this study, the profile of a “typical” visitor to an Egyptian resort was an Egyptian citizen, male, traveling with a group of 2-5 persons, 21 to 25 years of age, college educated, staying more than 7 days at the resort, traveling in the high season of May, June, or July, spending less than \$50 per day, with an average income between \$10,000- \$20,000, and with recreation as the main purpose of their visit. A “typical” visitor to an American resort was an American citizen, male, traveling in a group of 1-2 persons, 26 to 30 years of age, college educated, staying at the resort for 1-3 days, traveling in the high season of July, spending between \$100- \$200 per day, with an average income of \$30,000-\$40,000, and with recreation and nature activities as the main purposes of the trip.

Visitors' demographic variables influenced their perceptions about the environmental problems and their understanding about sustainability. The high levels of importance given to environmental issues came from those visiting Egyptian resorts perhaps due to the high representation of multinational visitors (almost half of the visitors to Egyptian resorts, especially

the Red Sea coastal zones, are from well-developed countries) that pay more attention to environmental problems and sustainability trends. Most of visitors to Egyptian resorts came in larger groups than visitors to the American resorts. This may be explained by the traditions and local customs of the Egyptians as well as the social structure. Age was another demographic factor examined, with three quarters of all visitors between 21 and 40 years old. The educational level of visitors to beach resorts may positively influence people's behaviors and attitudes toward their surrounding environment, as the level of education increases, their awareness of global environmental issues as well as local problems also increases.

Visitors to American resorts in general had higher incomes and levels of spending than those visiting Egyptian resorts. Recreation is the main reason for most of beach resort visits, however, nature sightseeing, safaris, and scuba diving represented a portion of those who may be classified as ecotourists. There was no tendency to repeat a visit to the same resort as the nature of ecotourists is to explore new destinations to extend their personal experiences. Other people visited the same resorts several times because they live close to the resorts or own accommodation units. Also, there are fewer acceptable choices because of the travel distance and the cost. These factors were more common to visitors to the Egyptian resorts, but this does not reflect the American resort visitors as well. Visitors to beach resorts in both countries showed high degrees of satisfaction especially for private resorts that are highly organized and operated in a professional fashion.

Attraction and satisfaction are mutual factors. The attraction comes first and then people express their satisfaction. In fact, people should be satisfied with what attracts them or there may be serious problems that should be resolved. This failure may be explained by: a) operational and management issues such as poor services, inadequate facilities, or insufficient activities; b) psychological factors such as visitors feeling unwelcome, unsafe or insecure; or c) environmental issues such as the existence of toxic materials close to the resort, high levels of air noise, dust, and pests pollution. Minimizing these negative impacts keeps associated satisfaction and attraction at the same level. This issue was positively reflected in Sharm El Sheikh and unfortunately negatively reflected in some parts of the Hurghada or the North Western Coast in Egypt.

5.6.2. Beach Resorts Seasonality

The majority of visitors to Egyptian resorts concentrated their visits in the summer season of June, July, and August with a total of 89.3% of the whole year number of visitors, while visitors to the American resorts spread their visits throughout the year with average range of 2.9-11.8%. In fact, this seasonality pattern of tourism causes economic and social problems, especially in the months of the low seasons the cost of operation and maintenance getting higher than the economic gains. This is also influence local employment and business, creating social problems as well. This illustrates that the high season for tourist arrivals to Egypt is almost fill the same period obtained from the survey tool. This results showed that the problem of tourism seasonality in Egypt is exists at two levels; the local level of coastal recreational tourism that mostly take place only through the Summer season; and the national level of international tourism in which June, July, and August (the Summer time) is the high season and November, December, and January (the Fall time) is the low season. There is a real need to pay more attention to the organization, the structure, and the marketing of tourism in Egypt.

5.6.3. Designers and Managers Attributes and Concerns

The vast majority of the designers and managers of American resorts are Americans, while designers and managers worldwide participated in designing and managing Egyptian resorts. This is reflected in the great number of international hotel and resorts chains that invest and operate resorts and hotels in Egypt. There was no significant effect of gender and age on their perceived environmental and sustainability issues, however, educational level, professional field, and length of experience did reflect the knowledge bases for respondents' understanding and awareness of problems and alternative solutions. The majority of respondents showed an interest in receiving the survey findings therefore indicating their concern. Others were highly motivated to know more on the subject and the current issues of sustainability and how they could incorporate these ideas into their resort design or management business.

Open-ended Questions

The survey instrument contained some open-ended questions that allowed respondents to express their opinions in a more substantial manner. Responses to these questions are provided below.

5.6.3. Major Environmental Issues in Design

Designers/planners were asked to identify the major environmental issues and concerns facing beach resorts today. The important environmental issue singled out for designers and planners was developing an environmentally sound coastal resort. A representative list of 26 responses across sites reveals the many concerns of all the designers/planners.

- 1) maintaining the natural beauty of the destination;
- 2) protecting local traditions;
- 3) prohibiting the use of chemicals;
- 4) providing a healthy sewage treatment system;
- 5) establishing garbage disposal and recycling program and facilities;
- 6) preserving clean sea water;
- 7) taking care of employee health;
- 8) protecting the coral reef and fishes;
- 9) maintaining quality cleanliness in general;
- 10) minimizing air, water, and land pollution;
- 11) ensuring hazards waste management;
- 12) ensuring economically feasible water supply and purity;
- 13) using local natural materials;
- 14) avoiding construction work that changes natural beach features;
- 15) applying construction methods that will be least damaging to the environment;
- 16) preserving natural drainage systems;
- 17) providing an aesthetic visual impact;
- 18) conserving natural resources and establishing sanctuaries in environmentally sensitive areas,
- 19) preserving historical features of the site,
- 20) maintaining creativity and skill level of corporate resort planners;
- 21) creating built environment that is compatible with local socials and traditions;
- 22) considering natural ventilation;
- 23) preserving natural environmental attractions at the site;
- 24) integrating agricultural and industrial development with tourism development;
- 25) balancing actual physical development and the amount of open and green space; and
- 26) providing flexibility in land use planning.

These 26 issues suggested by American designers as the most important factors to be considered in the protection of the environment and to help resorts measure their ability to be sustained are expressed in a simple fashion and pertain to specific sites. Some responses expressed the different needs and interests of Egyptian site designers as compared to the American site designers.

The participants at the **Egyptian** sites expressed the following specific environmental concerns:

- a. agricultural land being lost to urbanization and windblown sands;
- b. increased soil salivate below the Aswan High Dam that segregates a great source of building materials and soil enrichment (clay);
- c. desertification;
- d. oil pollution threatening coral reefs, beaches, and marine habitats;
- e. water pollution from agricultural pesticides, raw sewage, and industrial effluents;
- f. very limited natural freshwater resources especially for remote tourism developments that are a great distance from the Nile (the only perennial water source);
- g. rapid growth in population that strains the natural resources; and
- h. controlling differences in temperatures between the outside heat and humidity and the inside air conditioning (especially in Sharm El Sheikh).

The designers and planners at the **American** sites expressed the following specific environmental concerns:

- 1) imprudent upland construction that could weaken, damage or destroy the integrity of the beach and dune system;
- 2) management of coastal sediments to reduce erosion stress, and restoration and maintenance of critically eroding beaches; and
- 3) protection of the shoreline from activities that could contribute to erosion.

5.6.3. Designers' Perception of the Sustainability Concept

Designers/planners' understanding of the sustainability concept and principles must be reflected in their design and planning concepts and implementation. Designers/planners were asked to provide one or more examples of how resorts responded to environmental (ecological) issues and concerns. A list of 18 examples were provided including:

- 1) establishing a head office environmental program;
- 2) establishing suitable and acceptable ways of disposing of garbage;
- 3) recycling wastes and water;
- 4) using companies that are specialists in garbage recycling;
- 5) providing sewage treatment plants;
- 6) discharging disposals only in places assigned to collecting garbage;
- 7) providing containers for waste;
- 8) protecting the natural features of the existing natural beach;
- 9) protecting the swimming pool environments;
- 10) cleaning air conditioning filters;
- 11) protecting plants to help conserve air quality;
- 12) protecting coral reefs;
- 13) disallowing boats on the beaches;
- 14) minimizing water pollution;
- 15) modifying generator systems in hotels;
- 16) fighting the use of chemicals in the green areas;

17) removing insects from rooms; and

18) cooperating and coordinating with environmental agencies.

While some of these responses reflect detailed or small actions (i.e. cleaning and maintaining air or water filters), they still support the implementation of major indicators of sustainability such as providing better air and water quality. This list also includes major general issues such as cooperating with environmental agencies without detailing how this could be done. These responses show that great effort has been made by designers to address their concerns about environmental and cultural resources conservation as well as sustainability implementation. However, these designers face many obstacles in preparing plans that better respond to environmental concerns.

Designers also provided a list of 16 major obstacles that they believe must be overcome in the development process. They are:

- 1) garbage disposal;
- 2) water cleanliness;
- 3) beach cleanliness;
- 4) official governmental controls;
- 5) lack of awareness of environmental laws (the government not encouraging people to be environmentally aware);
- 6) poor services and supports offered from local governments,
- 7) no government encouragement to investors to visualize sustainable actions or environmental consideration;
- 8) no quick responses from governmental agencies to critical concerns;
- 9) high costs of development and operation that may not be covered in low tourism seasons;
- 10) land waste and land use mismanagement;
- 11) no rewards for the implementation of greening practices or protecting wildlife;
- 12) public ignorance of ecological systems and their principles;
- 13) designation of zones for the private sector and others for the governmental agencies; n) construction without environmental practices implementation;
- 14) lacking the ability to control people's behavior; and p) sustainable continuation of development.

Some issues mentioned above are specific to a resort (i.e., garbage problems and water cleanliness), and what is done in one resort to improve the environmental protection is missing in another resort. What is solved in one tourism destination is still raising conflicts in others. The significance of incorporating sustainable development principles into coastal resort development must be clearly stated and feasible to decision-makers. Designers/planners were asked about what could be done to improve their resort environmentally. Seven representative responses to this question are listed:

- | | |
|---|---|
| <ol style="list-style-type: none"> 1) future contamination; 2) increasing investments; 3) gradual protection of the environment; 4) reducing unemployment rates; 5) improving the national economic situation (increased revenue); | <ol style="list-style-type: none"> 6) maintaining a good reputation with guests; 7) teaching future generations about the environment; and increasing people's awareness and improve people's knowledge of the environment. |
|---|---|

Designers/planners provided examples for incorporating sustainable design principles into their coastal resort design, this list included:

- | | |
|---|---|
| <ol style="list-style-type: none"> 1) cleaning garbage from rooms; 2) providing filters for water taps; 3) encouraging personal hygiene for all staff; 4) preserving water quality; 5) taking care in selecting the right employees; 6) asking for guest comments and complaints; | <ol style="list-style-type: none"> 7) clearing up problems or shortcomings as soon as possible; 8) keeping water and its surroundings very clean; and 9) moving garbage to another site. |
|---|---|

Participants considered sustainable development as only environmentally sensitive development, thus, in many cases, respondents considered whatever criteria which protect the environment and conserve resources.

5.6.4. Management Significant Issues

Managers/owners were asked “What do you believe is the single most important environmental issues that a coastal resort manager/owner must deal with in managing an environmentally sound coastal resort?”

The **Egyptian** responses were as follows:

- | | |
|--|--|
| <ol style="list-style-type: none"> 1) considering the social structure of local community; 2) establishing a liaison with the local community; 3) controlling noise level; proposing facilities for disposals and wastes recycling; 4) providing care to employees and staff; protecting the coral reef; 5) developing new alternatives for fishing; 6) minimizing all forms of pollution; 7) garbage disposal; | <ol style="list-style-type: none"> 8) minimizing the use of chemicals; 9) providing better sewage treatment systems; 10) keeping the natural beauty of the sea water; 11) attracting visitors people in the first place; 12) prohibiting oil and garbage spilling into sea water; 13) preserving the surrounding nature; 14) limiting access to sensitive coral reef zones; and 15) providing health care for staff. |
|--|--|

The **American** responses were as follows:

- 1) preserving beach quality;
- 2) preserving natural environment (native plants, sand dune, and wildlife);
- 3) protecting beaches from erosion,
- 4) controlling over fishing;
- 5) problems of rust, sand and humidity on equipment;
- 6) danger of hurricanes; and
- 7) following local environmental laws and researching them well before making development decisions.

5.6.5. Examples of Sound Actions

Managers/owners were asked to provide one or more examples of how resorts responded to environmental (ecological) issues and concerns. A sample of representative responses are listed for each country:

In Egypt

- 1) establishing a head office environmental program;
- 2) promoting cleanliness;
- 3) using energy-saving methods;
- 4) providing garbage outlets and containers;
- 5) parking boats at a distance from the beach to prevent pollution from oil leakage;
- 6) preserving plants;
- 7) monitoring air quality;
- 8) using suitable means of garbage pickup and recycling;
- 9) cleaning up after cruises;
- 10) preserving coral reef;
- 11) avoiding construction that changes the natural shoreline;
- 12) building treatment plants;
- 13) recycling wastes and water by assigning companies for garbage recycling; and
- 14) cleaning air conditioner filters.

In America

The examples from managers/owners were:

- 1) complying with coastal construction set back requirements;
- 2) protecting and preserving sand dunes;
- 3) maintaining all native plant life on property with minimal disruption during construction;
- 4) using solar power and using fluorescent lighting when possible;
- 5) educating divers about reef;
- 6) using rust free machinery, and
- 7) constantly up keeping seawall and sand area.

Managers/owners were asked about what could be done to improve their resort environmentally? Representative responses to this question from both countries are listed.

Responses from managers/owners in **Egypt** included:

- 1) clustering buildings close to provide more shaded areas;
- 2) adjusting building density to minimize the built area and increase the green spaces;
- 3) using high palm trees and greens that provide a more comfortable environment;
- 4) more concern with building design;
- 5) addressing noise;
- 6) building parking lots;
- 7) building factories for disposals and garbage recycling nearby;
- 8) improving public behavior;
- 9) splitting garbage into categorized items for reuse/recycling;
- 10) cooperating with environmental agencies;
- 11) changing electric generators a non-polluting system of operation;
- 12) focusing on healthcare for staff members; and
- 13) controlling pests and insects.

Responses from managers/owners in **America** included:

- 1) limited historic preservation;
- 2) educational tours and awareness programs; moving construction farther back from the dunes;
- 3) visitors seminars and informative information exchanges about their activities;
- 4) CZM management put in place;
- 5) pre-feasibility request for an environmental statement;
- 6) recycling A/C water to use in watering plants and trees;
- 7) establishing a public transportation system; and
- 8) eliminating cars.

5.6.6. Management Obstacles

Managers/owners were asked, “What is the biggest problem that you face in managing coastal resorts in a manner that better responds to environmental concerns?” Representative responses to this question are listed from both countries.

Responses from the managers/owners in **Egypt** were:

- 1) garbage disposal;
- 2) beach cleanliness;
- 3) water supply;
- 4) prompt reply from government agency for investment and development;
- 5) funding problems;
- 6) lack of awareness of environmental laws;
- 7) no concern about applying law;
- 8) expensive land prices;
- 9) cost of trees and water for greening; and
- 10) little ability to control poor services provided from local government agencies.

Responses from the managers/owners in America were:

- 1) economic pressures;
- 2) clients trying to overdevelop the site;
- 3) clients requirements and budgets;
- 4) local governments do not protect the environment;
- 5) government officials and politicians are never from the local community;
- 6) absentee landlords have a profit mandate;
- 7) profit motive and community interests are rarely in synch;
- 8) economic incentives to build as close as to water possible despite long term costs;
- 9) return on investment-short term vs long term expected financial benefits;
- 10) lack of land use regulations;
- 11) getting the ecological message across to site owners;
- 12) loss of vegetation cover within dune systems;
- 13) ecological education needed;
- 14) cost;
- 15) balancing concerns with profitability operating the resort;
- 16) hurricanes;
- 17) pre-existing structures not energy and water efficient;
- 18) constant upkeep and replacement of items; and
- 19) s) wind, rain and corrosion of metal items such as motors, pumps, and lamps

Managers/owners were asked to provide a definition of the concept of sustainable development. Representative responses from both countries to this question are listed

Managers/owners in Egypt responded with:

- 1) love of ones country and history;
- 2) healthcare;
- 3) continuing growth;
- 4) ability to adopt life improvements;
- 5) preserving natural resources and availability;
- 6) protecting what we have for our next generation;
- 7) preserving healthy environment for the next generation; and
- 8) continuing to build strong generation links

Responses from managers/owners in America included:

- a) development that stays within the bounds of the natural surroundings; and
- b) equal balance between the needs of the local community and the future.

Managers/owners were asked, “Why is it important to incorporate sustainable development principles into coastal resort development?” Representative responses to this question from both countries are listed. In Egypt, managers/owners responded with:

- | | |
|---|--|
| 1) cost; | 3) improve people awareness and kids' education; |
| 2) preserve the continuation of development growth; | 4) growth of national income; and |
| | 5) reduces unemployment. |

In America, managers/owners responded with:

- | | |
|---|---|
| 1) project success is largely dependent on incorporation of these principles; | 10) improve life quality; |
| 2) concrete is not bio-degradable; | 11) increase public awareness; |
| 3) cultures cannot be reconstructed; | 12) keeping customers; |
| 4) species are endangered; | 13) ensure the continuation of the success of our business; |
| 5) tourists are being robbed of meaningful travel; | 14) increased investment in tourism; |
| 6) sustaining our resources over time; | 15) preserving use of resorts for many years to come; |
| 7) economic and ecological stability; | 16) responsibility for our actions and all future consequences; |
| 8) local community can become the caretakers of the coastal zone; | 17) revenue; and |
| 9) keeping sustainable development up; | 18) avoiding over-crowding . |

5.6.7. Management Examples for Sustainability

Managers/owners were asked to provide examples of sustainable considerations in the management decisions made by their coastal resort.

Representative responses to this question from both countries are presented.

Managers/owners in Egypt said:

- | | |
|--|--|
| 1) providing garbage cans; | 10) designing with respect to land topography; |
| 2) increasing green areas / more trees and plants; | 11) not changing the shoreline form and shape; |
| 3) using solar energy for water heating; | 12) using floating marina in favor of heavy structure marinas; |
| 4) providing energy alternatives; | 13) using local craftsmen and local labor; |
| 5) monitoring the project during the operational stage; | 14) using local style of arch elements (screen windows); |
| 6) maintenance and supervision on daily/weekly/monthly basis; | 15) sewage treatment planets / landscaping; |
| 7) sewage treatment; | 16) cleaning rooms; |
| 8) applying local architectural style; | 17) garbage disposal; |
| 9) using design concept compatible with the local environment; | 18) conserving water quality ;and |
| | 19) measures for selecting staff members. |

Responses from the managers/owners in America included:

- 1) efficient Mech./HVAC system;
- 2) submit environmental impact report (EIR) to Coastal Commission;
- 3) site planning that enhanced community;
- 4) apply what is required by regulations;
- 5) protection of ground water;
- 6) inclusion of existing commonage grazing regime for sheep;
- 7) using site for small fishing boat launches;
- 8) consideration of all users to the site, i.e., golfers, walkers families, fishermen, sheep owners;
- 9) environmental education resource for local schools;
- 10) maintaining and replacing trees and shrubbery;
- 11) constantly improving quality of resort;
- 12) cleanliness;
- 13) recycling; and
- 14) friendly atmosphere and good community relationships.

5.6.8. Obstacles for Sustainability Incorporation

Managers/owners were asked what they believe is the biggest reason that sustainable development principles aren't considered more often in coastal resort management.

Representative responses to this question from both countries are provided.

In **Egypt**, the managers/owners said:

- 1) cost;
- 2) not the right person in the right place;
- 3) ignorance;
- 4) lack of standards and good services;
- 5) lack of awareness on the importance of the protection of the environment; and
- 6) lack of funding support.

In **America**, the managers / owners said:

- 9) cost factors and budget constraints,
- 10) short term investment only (return on investment);
- 11) designers and planners have little knowledge about this concept and theory;
- 12) people not committed to long range benefits to future generations;
- 13) profit motives;
- 14) developers (investors) not well informed of the possible benefits of sustainable development;
- 15) greed;
- 16) focus on short term economic benefits for owners;
- 17) conflicts of interest between user groups and local community;
- 18) lack of environmental education;
- 19) short term economics out weigh long term vision; and k) politics.

Carrying Capacity, Life Cycling, Ecotourism in Resort Management

Managers/owners were asked to describe how they used ideas related to carrying capacity, product life cycling, or ecotourism in the management of their resort. Representative responses to this question from both countries are listed.

In **Egypt**, responses were:

- | | |
|---|--|
| 1) limited number of visitors; | 6) increased ecotourism offerings; |
| 2) diving center crafts; | 7) maximized benefits from project; |
| 3) close contact with locals; | 8) sustain tourism development based on available resources; and |
| 4) safaris; | 9) reduce visitors to protect environment. |
| 5) consider room carrying capacity: how many persons/ room; | |

Responses from the managers/owners in **America** were:

- | | |
|-------------------------------------|---|
| 1) occupancy rate control; | 5) not disposing of chemicals on grounds; |
| 2) energy saving practices; | 6) education of guests about scarcity of resources; |
| 3) air conditioners where possible; | 7) preservation of reef; and |
| 4) recycling efforts; | 8) maintenance that protects environment |

5.6.9. Beach resorts activities

Beach resort visitors were asked what they like best about resort they are visiting. A total of 64 factors were singled out, there were 18 common factors between Egyptian and American visitors, 11 responses singled out by Egyptian respondents, and 35 responses by American visitors only. These factors were grouped and classified into 30 categories. The summary is presented in Table (5-3) below.

Table (5- 3): Factors Visitors Like Best about Beach Resorts

Factor of visitors they like best about the resort	Egypt	US	Total
Sun bathing, Clear skies and nice weather, Natural atmosphere and environmental surrounding	4	2	6
Sea water clarity, warm sea water, Swimming in the sea water, Being on the waterfront	8	2	10
Scuba diving	1	2	3
Services provided, Night entertainment (i.e. happy hour of pool bar, live music), Food variety and on-beach restaurants, Game room, Jacuzzi	3	8	11
Quietness, Peaceful and relaxing environment, Sounds of water waves (beach environment), Small town atmosphere, non-crowded atmosphere, Being away from the city	4	10	14
Natural sight seeing (i.e. view of water, beautiful scenery), Very high levels of naturalization	3	4	7
Sandy beach area (i.e. white sand), Beach showers, Public accessibility to the beach	5	7	12
Architectural style (i.e. use of design to enhance the built environment to fit within the natural environment, related to surrounding landform and ocean, Interior design, Facade and building form, Accommodation size)	4	7	11
Landscape, Green areas and extensive gardens and lawns, Beautification, Palm trees	5	8	13
Swimming pools (indoor and outdoor)	1	2	3
Cleanliness	2	2	4
Proximity to local attractions, Environment of tourism, Socialization, Contacts with local community, Communication with tourists, Friendliness of people, Classiness of resort	7	4	11
Designated safe places for kids	1		1
Sidewalks on the beach, Public and private walkways	1	2	3
Near visitor's hometown		1	1
Historical features nearby		1	1
Higher than expectation accessibility for disabled travelers		1	1
Utilization of roofs for sunbathing, Maximizing the use of vegetation on the grounds		1	1
Preservation of beach dunes, Preservation of native habitats, Preserving fauna and flora		4	4
Few cars inside area	1	1	2
Location and site planning	1	2	3
Affordable cost	1	1	2
Availability of private beach		1	1
Good parking lot		1	1
Environment free from pollution		1	1
Providing a variety of activities (i.e., horseback riding, Sea World show)	2	1	3
Total	54	84	138

Sharm and Hurghada are destinations for scuba diving and natural wildlife destination, while the North Coast, Sudr, and Sokhna are mainly for swimming in the sea and enjoying beach sports and activities. In Sharm El Skeikh and Hurghada most of tourists are foreigners or

high income Egyptians, while the majority of visitors to the North coast, El Ein El Sokhna, and Ras Sudr are Egyptians as they are able to use cheaper public transportation or it is nearby. In Egypt, the North Coast beach resorts scores are frequently visited as a traditional destination for summer vacations for domestic tourism for both the Egyptian and other Arab visitors. El Ein El Sokhna recently become a main target for weekend's recreation for the greater Cairo people as it is only an hour away from high populated residential districts. Sharm El Sheikh resorts in Egypt indicate the highest degree of their visitor satisfaction. Modes of transportation to beaches include: North coast: cars, buses, and trains. Sharm El Sheikh and Hurghada visitors use buses, planes, and cars depending on incomes level. El Ein El Sokhna and Ras Sudr visitors mainly use cars as it is close to the greater Cairo metropolitan area.

5.6.10. Visitors' Environmental Concerns

Visitors were asked what they liked least about the resort they were visiting. Representative responses to this question from both countries are provided.

In Egypt,

- | | |
|---|--|
| 1) pollution; | 12) population density; |
| 2) night life; | 13) no room for more building sites; |
| 3) building sites; | 14) hot weather; |
| 4) tourist behaviors; | 15) crowdedness; |
| 5) noisiness; | 16) eating and cooking food on the beach; |
| 6) humidity; | 17) buildings too close to each other; and |
| 7) cleanliness of the beach zone; | 18) traffic; |
| 8) price; | 19) cleanliness of the sea water; |
| 9) shopping area; | |
| 10) architectural development; | |
| 11) increase in hotels numbers not compatible with the place; | |

Visitors to **American** resorts said:

- | | |
|---|--|
| 1) rooms do not have refrigerators; | 5) surrounding native forests & beaches are being gobbled up by development; |
| 2) check-in office is unmanned; | 6) rooms were ordinary and too small; |
| 3) no public transportation to other sites; | 7) too crowded; |
| 4) difficult to reach with public transportation; | |

- | | |
|--|---|
| 8) separated from the local culture; very artificial landscaped setting; | 16) beaches close at 9pm; |
| 9) density of "housing"; cost; | 17) rooms and facilities are slightly outdated; |
| 10) pace of development is accelerating; | 18) beach litter; |
| 11) haphazard development; | 19) all-inclusive meal plan; |
| 12) not many night attractions; | 20) no air conditioning; |
| 13) parking too far from units; | 21) too commercial; |
| 14) native vegetation not used to fullest extent possible; | 22) disappointing quality of specialist restaurants; |
| 15) privacy; | 23) traffic; and |
| | 24) too much concrete and not enough gardens or green spaces. |

5.6.11. Suggestions for Improvement

Visitors were asked to identify some things that they believe made the resort they were visiting better environmentally. Representative responses to this question from both questions are listed. **In Egypt**, the visitors said:

- | | |
|---|---|
| 1) environmental policies; | 11) landscaping; |
| 2) site development; | 12) solar energy for water heating; |
| 3) special architectural aspects; | 13) protection of coral reef; diving restrictions; |
| 4) beauty of the beach; | 14) compatible local colors and materials; |
| 5) water quality and cleanliness; | 15) increased greenway road width; |
| 6) not too many hotels; | 16) variety of shopping opportunities and prices; |
| 7) visual quality; | 17) constant trash and litter pick up around resort; |
| 8) sight-seeing opportunities; | 18) better aeration for the units and restaurant; and |
| 9) activities such as horseback riding; | 19) fresh food supply. |
| 10) sunset; | |

In America, the visitors said:

- | | |
|--|---|
| 1) use of roof area instead of grounds; | 9) simplicity; |
| 2) clothes lines for drying; | 10) compatibility with local life; |
| 3) maximum use of native vegetation; | 11) tidal creeks and lagoons in landscaping; |
| 4) native plant life use; | 12) significant portion is wildlife preserve or protected area; |
| 5) clustering of residences; | 13) high ratio of land area per person; |
| 6) bridges over dunes; | 14) maintenance plan for dunes; |
| 7) hotel rooms and pool far back from beach (perhaps 200+yards); | 15) open and green space; |
| 8) conscious effort to stay clean; | 16) ease of access within and outside the place; |

- | | |
|---|---|
| 17) appeal of overall landscape; | 24) tall beach walls; |
| 18) development away from industrial areas; | 25) trees for buffering; |
| 19) cars prohibited; | 26) conservation of the reef habitat w/divers; |
| 20) recycled paper, glass and plastic waste; | 27) traditional architecture blended with modern conveniences; and |
| 21) gas fireplaces instead of wood; | 28) well designed routes between resort and beach so as to minimize damage to environment in between. |
| 22) lower density of rooms; | |
| 23) water conservation information available; | |

Visitors' Perception of Sustainability Concept

Visitors were asked to describe what is meant by sustainable development. Representative responses to this question from both countries are listed.

In **Egypt**, the visitors described sustainable development as:

“development of a site that allows the wildlife and habitat to be maintained”

“balance between economical and ecological aspects”

“incorporating technology in our daily life for solving problems”

“maintaining the quality and the quantity of whatever resources we have right now for the next generations”

“concern about the cultural and natural beauty and environment protection”

“the natural use of natural resources without deterioration of the environment and without reducing the right of future generations to use these resources”

The visitors to **American** resorts described sustainable development as:

“development that is ecologically sensitive so that the ecosystem in which the resort is built can support the resort, people, waste, etc. without destroying the eco system”

“level of development that can be sustained without depleting required resources; shaping our built environment in a way that is least destructive to its ecological surroundings (whether that be cultural, biotic, etc.)”

“establishing a relationship through design with nature that is balanced between consumption and contribution”

“development that is environmentally friendly in terms of reduced consumption of non-renewable resources, but also incorporates the local ecology and culture into it”

“developing the built environment in a fashion that does not put unnecessary stress on the natural environment

(including all other living things)”

“balancing the needs of humans with the needs of all other living things for mutual benefit”

“development that results in activities/buildings that can exist over the long-term as they don't require consumptive use of non renewable resources”

“any form (or kind) of development that strives to maintain a balanced mutually beneficial exchange among the major actors (stakeholders) of production and service systems while minimizing or causing no degradation but contributing to the enhancement of the natural and cultural environment and personal and interpersonal experiences”

“development within the natural resource capacity of an area”

“people and nature together in harmony”

“develop land in a way that it can maintain its essential characteristics without constant human involvement”

Visitors' Perception of Carrying Capacity Concept

Visitors were asked to describe what is meant by carrying capacity. Representative responses to this question are listed below:

“how much life the planet can support”

“maximum population of target species that can be supported per given unit of area without depleting required resources”

“when a certain environment inhabited by "X" species can no longer sustain growth without something detrimental happening to species "X"”

“the upper limit of a habitat to support a particular species”

“the ability of a region to support a particular activity, such as tourism”

“working within the natural resource “budget” of an area”

“simply how many units that can be supported”

The economic, social, and environmental approaches that contribute to the protection of the environment and conservation of resources are being incorporated by stakeholders in some aspects of development using the concepts of product lifecycle, ecotourism, and carrying capacity. Respondents described these efforts in their coastal resort design as follows:

a. The carrying capacity concept has been used in four cases: 1) preserving the quality of the environment by establishing a maintenance program, this is measured as a managerial carrying capacity; 2) decreasing the number visitors to the resort (carrying capacity control) from 1500 to 500 to improve the protection of the environment, this is measured as an ecological/environmental carrying capacity; 3) taking good care of guests; this is a

social/psychological carrying capacity; 4) knowing how things are being used and how they could be reused (recycling and minimizing wastes), this measures the biophysical/physical carrying capacity.

b. The product life cycling concept was used in the following 4 cases: 1) protecting the tourism product (i.e. the supply of food, accommodations, services, and transportation); 2) providing actions that increase the lifecycle of the product (i.e. providing new activities or marketing promotions and discounts); 3) getting continuous sustainable tourism products in all aspects (i.e. incorporation of sustainability principles in all daily actions within the resort development); and 4) gaining the highest benefits from the project (i.e. working with the seasonality problem such as filling out months of low season tourist arrivals in such manner that the operation cost is economically feasible).

c. The ecotourism concept was applied within the context of sustainability and carrying capacity control in the following four cases: 1) providing well-organized and environmentally sensitive diving crafts for sea world shows that things promote coastal ecotourism to visitors abroad and prevent potential damage to the environment; 2) providing diving centers for individuals who have more interest in the natural environment in order to enjoy this experience with official learning and safety procedures that prevent danger to individuals and damage to the environment; 3) arrangements for desert safaris for those who have interest in the wildlife and desert landscape; and 4) living with local traditions that encourages social interaction between visitors and the local community to enhance the exchange of knowledge and experience. The first three cases are controlled by the ecological carrying capacity of the environment that focus on factors such as aquatic and desert wildlife in which this control of number of users (capacity) and activities improves the acceptable limits of the ecological carrying capacity of the resort environment. The last factor focuses on local traditions and social life that support improvement of the acceptable limits of the social/psychological carrying capacity.

Survey respondents were given the option on several questions to add “other” factors (indicators) that should be measured as part of an examination of coastal resort sustainable development but are not in the research survey. The suggestions from Egyptian and American respondents included: natural sanctuaries; use of sunshine; floods and flooding; sand dune movements on the beach; needs of target markets; grassland macro invertebrates; historical

monuments; public acceptance; archeological developments; atmospheric conditions; incorporation of a human resources building; leadership staff; litter control; management cooperation policies; reuse of seawater after treatment (distillation plants); protection of the underwater world; activities (surfing, rafting, snorkeling, canoeing, kayaking, windsurfing, golfing); nearby food supplies; minimal consumerism; self-reliance of visitors; availability of bathrooms; and hospitality of staff. These suggestions should be considered in the development of any new models.

Survey Report

Participants were offered the chance to receive the survey results. Measuring participants concern about sustainability of coastal zones is of particular interest to the researcher. The American resort visitors showed a very high level of interest in receiving the survey findings (82.4%), while visitors to Egyptian resorts showed high interest also (66%). While many were highly motivated to know more on the subject, they didn't have good contact information. Professional groups of resorts designers and managers showed the same level of interest for many reasons: first, to learn more about the current issues of sustainability, second, to know where they stand and what they can do to move toward a more sustainable business. The majority of Egyptian resort participants (83.3% of designers and 76.9% of managers) showed an interest and 79.5% of the designers and 85.1% of the managers from American resorts asked to know about the survey results.

5.7. PHYSICAL PATTERN OF BEACH RESORT DEVELOPMENTS

This section discusses the physical characteristics and patterns of the selected beach resort developments.

In the United States, the evolution of outdoor recreation started back in 1861, when Mr. S. F. Cunn of the Gunny School took his students for an outdoor sport and educational camping as a part of a class program. The global concern about developing beach resorts (tourist villages) was started in 1954 by the "Club Mediteranee" in France followed by Spain in 1972, and in Egypt at the late 1970s.

Beach resort developments in the United States differ from those in Egypt in two ways: First, in the U.S., since most of shorelands are in private ownership, the private sector is the main provider of leisure experiences in the coastal zones. In Egypt, coastal land is owned by the government who determines land uses and sets up the master plan for the development that is then sold to the private sector for site planning, leading to design limitations. The poor output of this policy was clear in the development of the Northern West Coast where land divided into rectangular pieces of similar dimension resulted in a highly monotonous design and planning pattern, and a repetition of facilities and services for each individual project with no room left for future inputs, mitigation, or creativity.

Second, coastal recreation in America is more urban in character, as many coastal recreation resources in the U.S. are located adjacent to, and used extensively by, urban populations. This is different in Egypt as most of the Egyptian highly populated urban areas along the River Nile and most of coastal zones are remote sites accessible only to those who want to pay for tourism. A growing body of literature regarding coastal recreation is beginning to emerge.

The following examples of the Egyptian beach resorts were built using the traditional building regulation standards of coastal resort design and planning that is based only on the physical aspect of the site capacity.

Beach Resort Pattern in Egypt

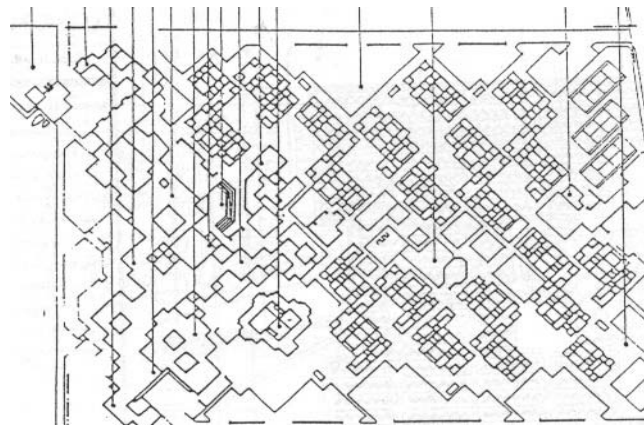
Mediterranean Sea Coast

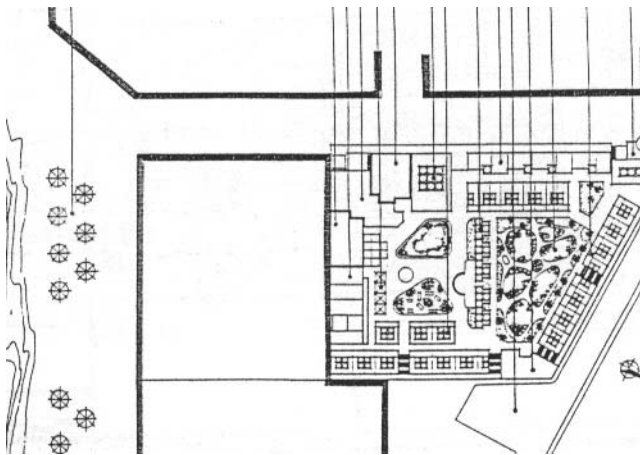
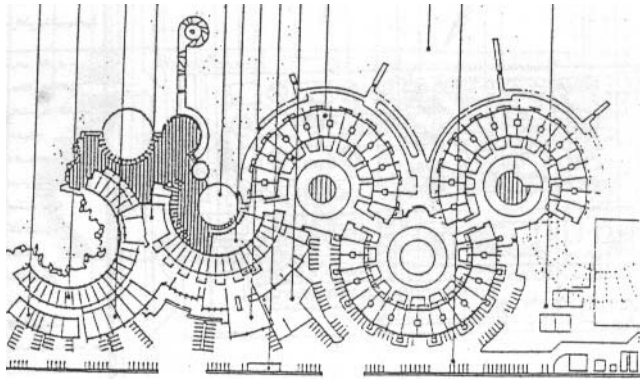
A typical resort type of the area is Marakia and Marina. "Marakia" is 240 acres that consist of three main parts; namely, beach, housing units and public service units. The beach is 1500 meters long; its downstream surface is 100 meters, and consists of five-region on-shore 1945 units (1267 cabins, 72 villas and 31 houses). The public service units are in both the middle of the village and at its main entrance, including administrative, emergency, communication, commercial, and entertainment services of restaurants, cinema and an open-air theater. At the village entrance, an 800-person capacity mosque has been built. Large surfaces were devoted for courtyards and public gardens.

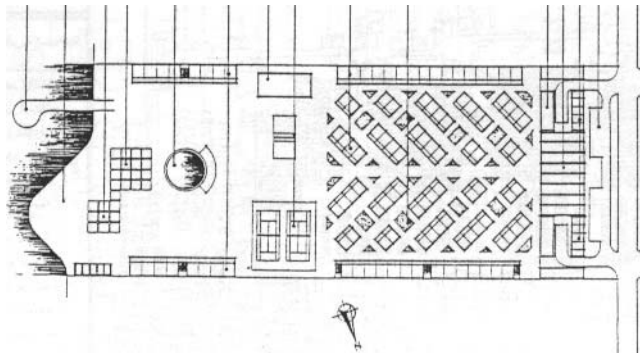
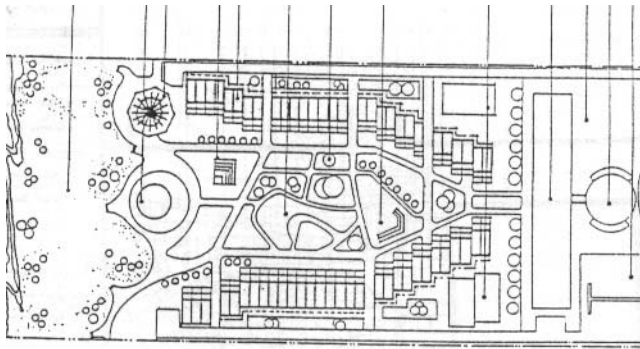
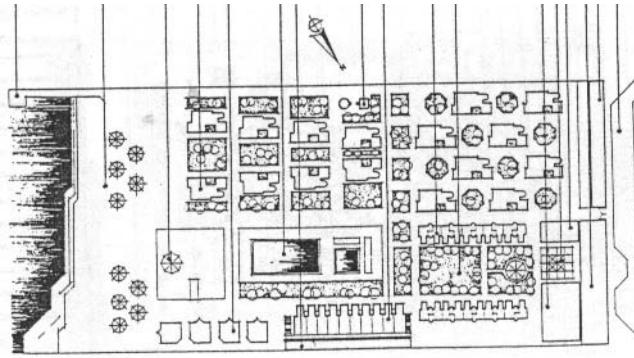
The "Marina" beach is 750 long and its total area is approximately 143 acres. The housing unit consists of 34 villas, 264 flats, and 672 cabins. Many services were developed on the beach. Shopping, health center, in addition to the entertainment there is also religious services.

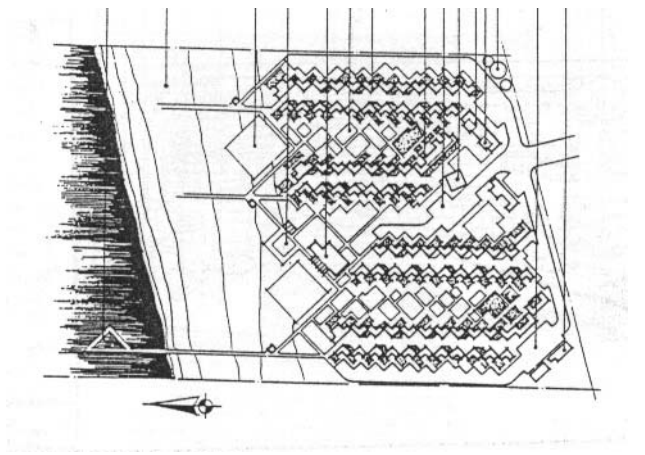
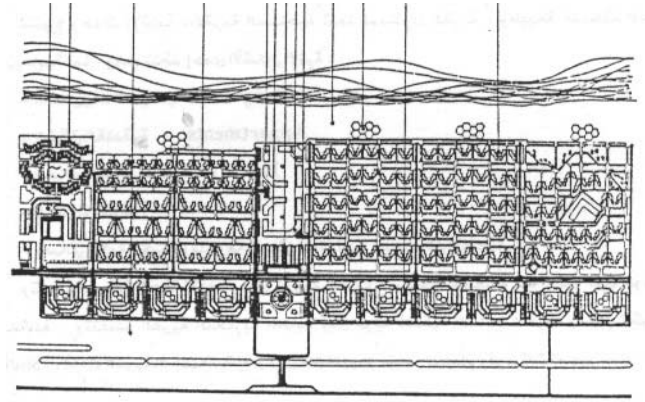
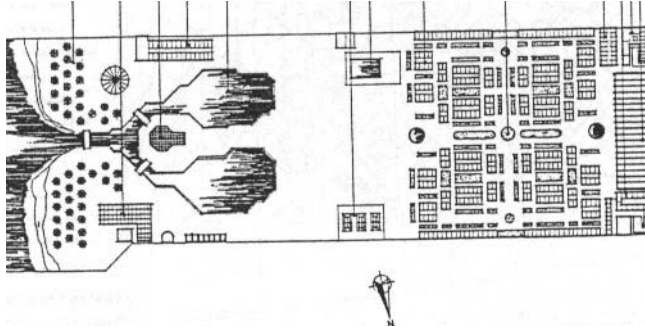
Nearby, "Marina- Alameen" lies on the beach, about 100 km from Alexandria. Its surface is nearly 5000 acres. Apart from the beach, it consists of housing and public service units. Golf, horseback riding, and other sport facilities and courtyards are provided. In addition to the already mentioned resort sites, the metropolitan area of Alexandria (Alex) itself with a population 3,341,000 serves a great number of domestic tourists, possessing 54 hotels with 4,041 rooms (EMT, 2001).

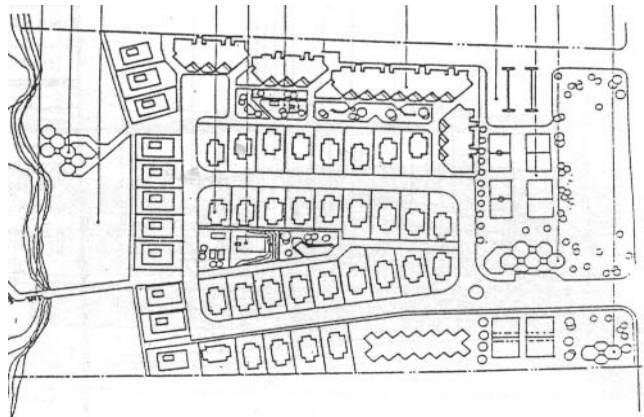
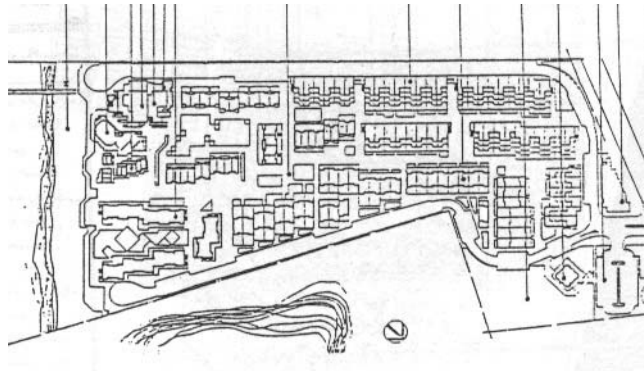
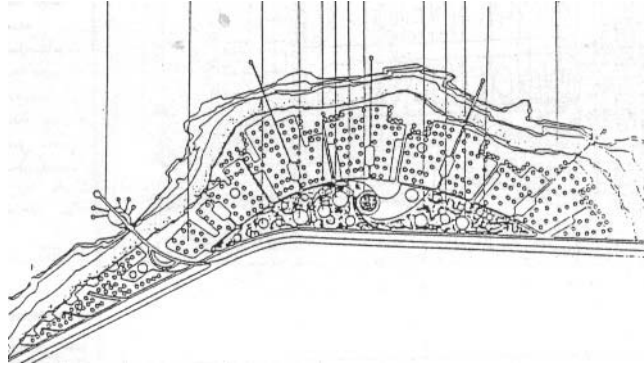
Many researchers from the Egyptian institutes and universities studied coastal development and beach resorts (Ali, 1993; Atwa, 1993; El-Esawey, 1992; El-Halavawy, 1987; Fahmie, 1995; Megahed, 1994; Saidawi, 1994; and others). The following are examples of the current pattern of beach resorts design and planning in Egypt [Figure 5-30].











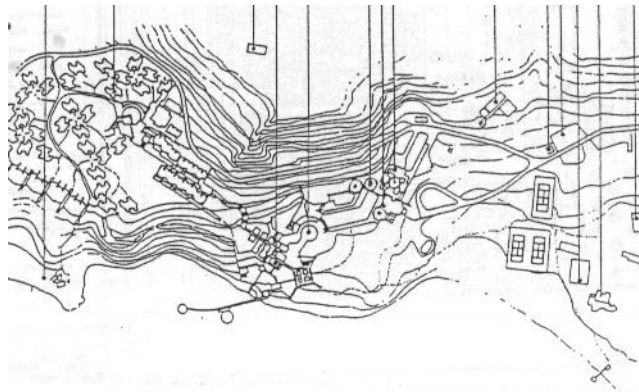
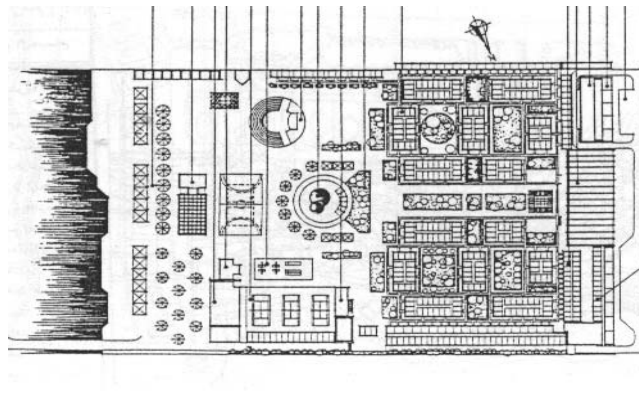
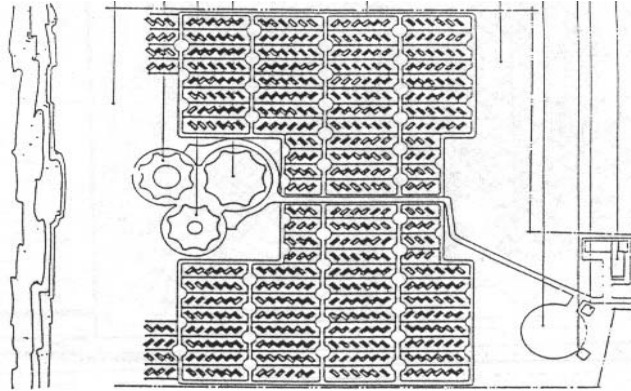


Figure (5- 30): Examples of Current Pattern of Beach Resorts Design and Planning in Egypt

The above examples illustrate two points. Each individual resort is designed as a separate community, with a high fence that prohibits public access to the water. Second, there is repetition of services, facilities, and the infrastructure. This duplication consumes a huge amount of

resources individually rather than sharing resources within a comprehensive regional and local planning.

This shows the physical development of a site and that using the physical measure of a tourism destination only is not meaningful enough to clearly illustrate the values of the other aspects of the environment including the integration of the ecological, social, and economic aspect of development.

The physical carrying capacity of a beach resort represented by number of visitors (number of rooms) passes through a transformation process in which facilities and services are expanded. Due to this expansion, changes occur to the other capacities of the environment (i.e., ecological, economic, social, psychological, and managerial) resulting in loss of the appeal of the natural environment. The increasing of these capacities is reflected in the quality of natural features, services, and infrastructure; the attitude of the host community toward tourism; tourists' satisfaction levels; availability of natural resources, and management capabilities.

5.8. RESORTS PHYSICAL DEVELOPMENT GRAPH

Fixed variables used to measure how the physical development of the built environment of the selected resorts is represented by the number of expected visitors based on the number of accommodation units and its associated development. The five variables included were: 1) the total built area [Figure 5-31]; 2) the ratio of the built area to the total site area [Figure 5-32]; 3) land area designated per person [Figure 5-33]; 4) landscape area designated per person [Figure 5-34]; and 5) shoreline length designated per person [Figure 5-35]. In general, the graphs show a decrease in the designated areas and facilities per person as the numbers of accommodation units and the associated development increases.

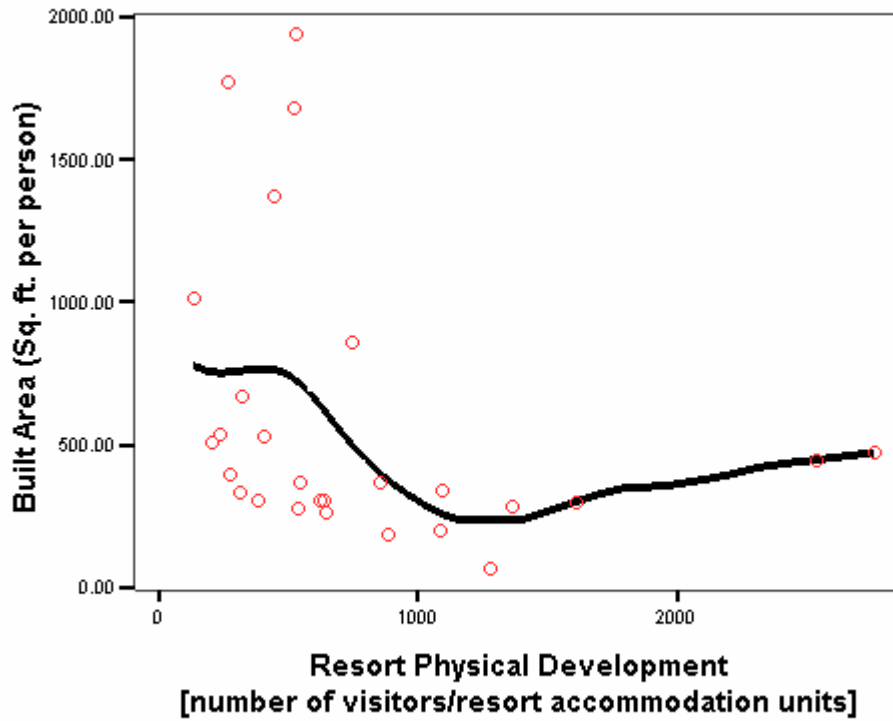


Figure (5- 31): Total Beach Resort Built Area / Resort Physical Development

This graph shows that many resorts have fewer accommodation units in a larger built area. This decreases as the number of units increases, however, as the resorts get bigger, the land area starts to increase.

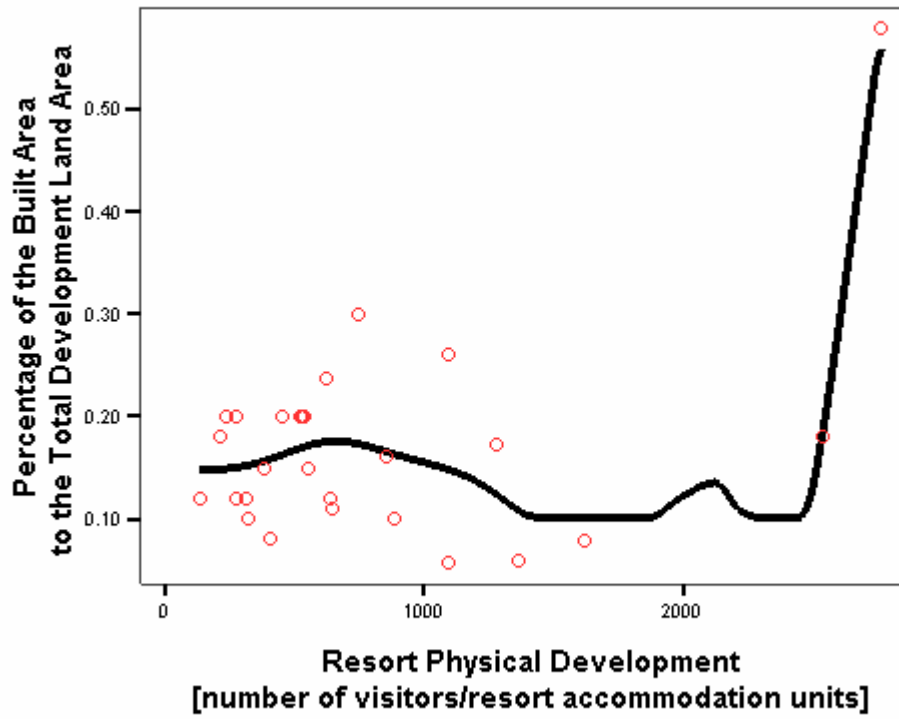


Figure (5- 32): Ratio of Built Area to Total Site Area / Resort Physical Development

Also, the percentage of built area designated to each visitor decreased as the number of accommodation units increased. However, in some large resorts, the area designated per visitor is higher

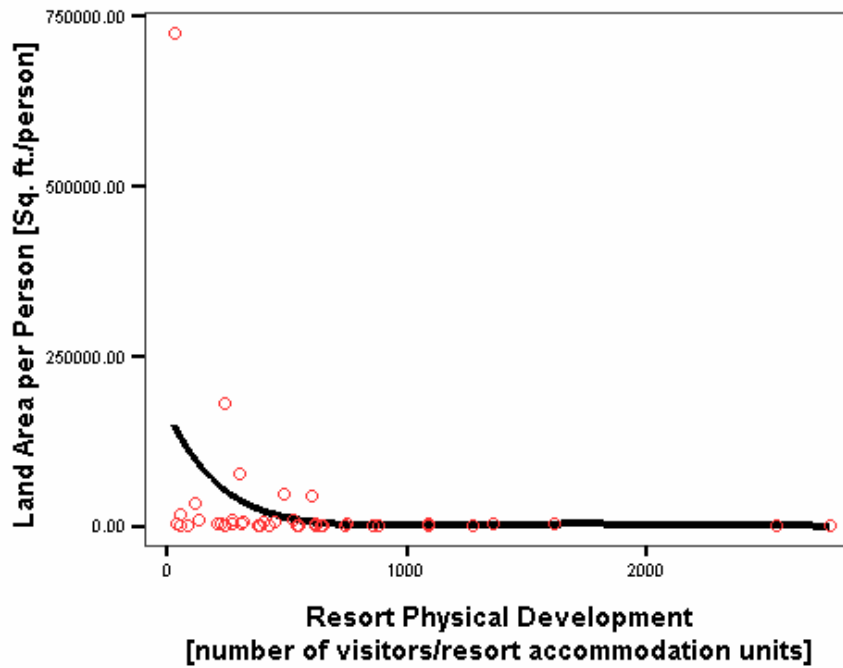


Figure (5- 33): Land Area Designated Per Person / Resort Physical Development

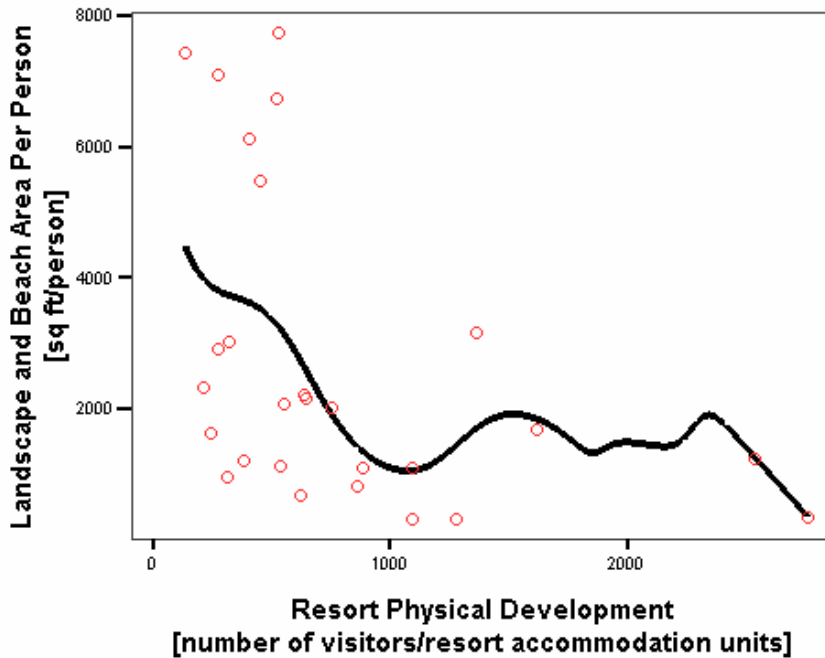


Figure (5- 34): Landscape Area Designated Per Person / Resort Physical Development

The designated area per visitor from the total site does not indicate clearly how the building regulation is applied. Landscape area and beach zone designated per visitor has a great influence on resort environmental quality and on visitor satisfaction of their stay at the resort. Resorts with fewer numbers of accommodation units provided more landscape and beach area for their visitors.

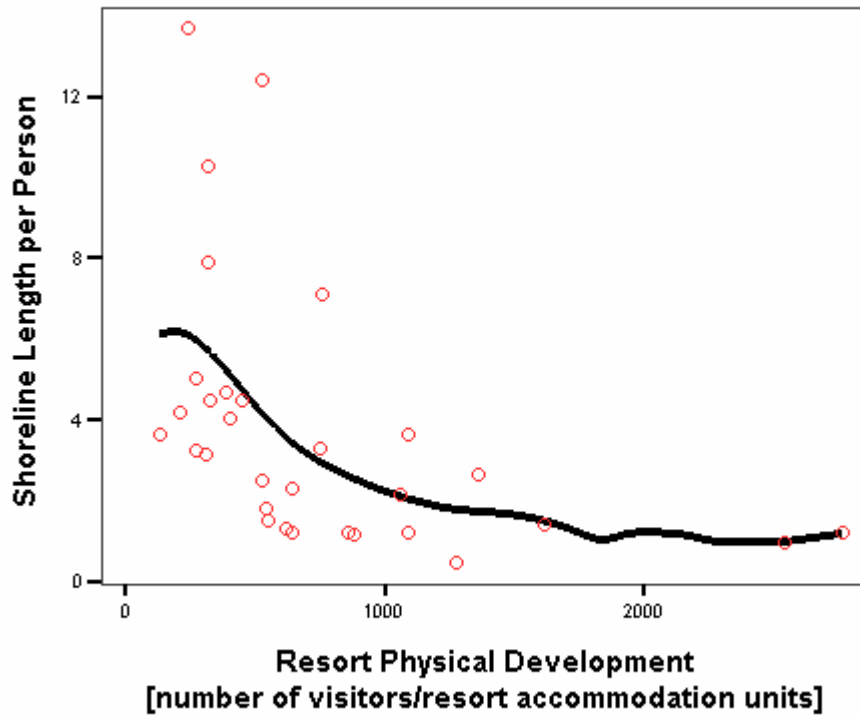


Figure (5- 35): Shoreline Length Designated Per Person / Resort Physical Development

The amount of shoreline per person is greatly decreased with the increase of the number of accommodation units. This obviously increases the level of crowdedness in the beach area and most likely has a negative impact on the psychological capacity of the resort, specifically for those visitors seeking quiet and relaxation. Increasing the number of accommodation units may require an increase in the number of floors per resort accommodation building.

It is assumed from the above graphs that the physical development size represented by the number of visitors/number of rooms does not show a relationship with any of the perceived capacities (ecological, social, psychological, physical, economic, or managerial). This is not true. Therefore, it is concluded that using the physical development capacity alone cannot adequately convey a real measure of environmental quality. This research proposed linking qualitative sustainability indicators to the physical development (quantitative measure) to accurately measure perceived capacities (ecologically, socially, psychologically, physically, economical, and managerially). The following part discusses the proposed model and the analysis.