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LIFE Red Sea Project

Ec lodge Planning, Design, and Operation
Handbook



AUGUST 2008

This publication was produced for review by the United States Agency for International Development. It was prepared by Chemonics International.

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ACRONYMS

CDA	Community development association
EBP	Ecolodge business plan
EEMM	Employee Environmental Management Manual
EIA	Environmental Impact Assessment
EMS	Environment Management System
IFC	International Finance Corporation
LCD	Life cycle design
LIFE	Livelihood and Income from the Environment
LRS	LIFE Enhancing Sustainable Tourism in the Southern Red Sea Region project (or LIFE Red Sea project)
NGO	Non-governmental organization
SME	Small- and medium-sized enterprise
TDA	Tourism Development Authority
ToR	Terms of Reference
USAID	United States Agency for International Development
VOCs	Volatile Organic Compounds
WGNP	Wadi el-Gemal National Park

INTRODUCTION

THE GROWING DEMAND FOR SUSTAINABLE TOURISM FACILITIES AND SERVICES

The demand for sustainable product, facilities, and services witnessed a remarkable growth between 2007 and 2008. Rising fuel prices, concerns over global warming, and the continued loss of the planet's scarce natural resources drove hotel and resort owners and operators to identify and implement environmentally responsible standards and practices.

In Egypt there was also a growing concern for the need to embrace a more socially and environmentally responsible tourism business model. While there were still opportunities for traditional large resort properties, particularly those in the 4- and 5-star category, there was also a growing demand for smaller sustainable tourism accommodation options, or what has been called the 'Ecolodge.' The Egyptian Tourism Development Authority (TDA) determined that it would be in the best interest of the Egyptian travel sector as well as the competitive positioning of the country if there were a more concerted effort to develop sustainable tourism.

Several tourism planning and development initiatives had already taken place in early 2007, particularly within the Livelihood and Income from the Environment (LIFE)–Enhancing Sustainable Tourism in the Southern Red Sea Region project (LRS), funded by the United States Agency for International Development (USAID). This project, and the earlier Egyptian Environmental Policy Program, had worked to support the development of sustainable tourism. For example, LRS' preparation of a Southern Red Sea Sustainable Tourism Strategy identified both the locations as well as the context for ecolodge development. In particular, the presence of Wadi el-Gemal National Park (WGNP) within the region, suggested that there was an excellent opportunity to combine responsible tourism accommodation development with the unique social, cultural, and natural resources of the area.

Environmentally-responsible Tourism Accommodation Checklist

In order to launch a credible and viable ecolodge sector it was necessary to both define the facility in the Egyptian context as well as establish best practices and the various planning, design, and operational criteria for the ecolodge. While much has been written about ecolodges, there is remarkable little information for either investors and developers or those government agencies that are charged with assessing the integrity of a proposed ecolodge.

Consequently the TDA requested that a comprehensive manual be prepared that would enable them to assess ecolodge proposals. A specialist in ecolodge development was retained and a comprehensive document called 'An Ecolodge Planning, Design and Operations Manual' was prepared to meet the exclusive requirements of the TDA, investors, and others interested in developing responsible tourism facilities.

Select Best Practices

There are now more than 800 legitimate ecolodges worldwide. During the preparation of the manual it was recognized that there was much to learn from many of these existing facilities. For the most part they are high-quality operations, financially viable, enjoy excellent occupancies, and respect local culture and the environment. Consequently, 21 were selected in order to identify the practices, criteria, and procedures for developing and operating an ecolodge. In many cases the activities of these lodges (and others) were integrated into the manual, ensuring that it is a practical document for the users.

THE INTERNATIONAL ECOLOGE

There are volumes written about the values of ecotourism and the importance of the ecolodge and its contribution to the ecotourism experience. For the purpose of this document, it is only necessary to repeat that ‘ecotourism’ as it is typically defined must:

- Conserve and enhance the environment
- Operate within the highest environmentally responsible practices
- Educate and inform the visitor, employees, and local residents about environmental and cultural issues
- Support conservation and community-based activities
- Sustain the social, cultural, and financial well-being of local residents, small businesses, and communities.

Furthermore, ecotourism facilities and infrastructure must be designed and operate with a minimal environmental impact or ‘footprint.’

The ecolodge is a central feature of the overall ecotourism experience and must reflect all of the above conditions both within its design (sustainable architecture) as well as by its day-to-day operations and services.

For the purpose of this manual, the ecolodge will use the definition advanced in 1999 by Ecoplan:net Ltd. as, “Tourism accommodation that responds to the highest standard of sustainable architecture, site planning, and design as well as incorporates all appropriate ‘green management’ practices and procedures in every aspect of its operations and tourism services.”

The ecolodge “Obliges the owner/operator to:

- Use current energy and water conservation technologies
- Use local design and construction methods and materials
- Practice responsible solid and liquid waste management, including recycling and sewage treatment
- Avoid all hazardous and toxic materials
- Assess life-cycle environmental impacts of all building materials and all operations related purchases
- Provide quality guest interpretation and educational programs and itineraries
- Make a significant contribution to local economic development through fair wage practices and use of local suppliers.”¹

DEMANDS FOR ECOLOGICALLY RESPONSIBLE ACCOMMODATION

The first significant ecolodges appeared in the early 1990’s and were developed in response to the small but growing ecotourism market. However, in the past few years ecotourism and ecologically conscientious accommodation has ceased to be a niche market as the concept of an environmentally-friendly facility begins to appeal to more travelers.

In fact, to some extent most tourists have now become ‘ecotravelers.’ For example, a 2007 survey by Tourism Concern in the UK found that 96 percent of travelers would rather stay in an

¹ Tortugero National Park (Costa Rica) Ecolodge Business Plan, Ecoplannet Limited for RBA Architects, British Columbia, Canada, 1996

environmentally-responsible resort than a 5-star property. Other recent travel consumer surveys have been equally enlightening and support sustainable construction and operations.

For instance:

- A comprehensive 2007 Tripadvisor Survey indicated that:
 - 38 percent of travelers surveyed have stayed at an environmentally-friendly hotel
 - 66 percent believe environmentally-friendly measures in travel are making a difference
 - 9 percent specifically seek out environmentally friendly hotels and resorts

Concern for climate change has made energy conservation the number one requirement for an environmentally-responsible property but that is followed closely by water conservation and waste management.

- The 2007 Lonely Planet annual Travelers' Pulse Survey, which polled more than 24,500 people worldwide, showed:
 - 84 percent of respondents said they would consider offsetting their emissions in the future and almost one-third (31 percent) had done so in the past
 - 79 percent of respondents said they would or might volunteer in their future vacations, and 25 percent have already done so in the past
 - 70 percent of travelers said they had purposefully traveled in a low-impact way in the past, and more than 90 percent said they would or might do so in the future
 - Although 36 percent had never purposefully considered the environment in the past, 93 percent now said they would or might purposefully partake in environmentally-friendly travel in the future.
- A VISA International Consumer Attitude Survey of 5,000 travel consumers in 10 markets found that 88 percent would choose an environmentally-operated hotel and tour operator if available.

The message to investors and developers, accommodation managers and owners, and all government agencies seems clear. It has become essential to consider the triple bottom line when building accommodation for today's and tomorrow's markets. This is particularly important if Egypt wishes to position itself as a more responsible and sustainable destination.

PART I

Physical Areas and Standards



1.1 AREA: DIMENSIONS AND SURFACE

1.1.1 TOTAL NUMBER OF UNITS

The number of units varies with the size of the site, market demand, and available finances. The typical number of rooms that are currently found in the ecolodge sector is not necessarily a good indication of an acceptable size; however, the preference is generally for smaller 30–40 unit facilities. However, the International Finance Corporation (IFC) has suggested the maximum size of an ecolodge should be 70 units, which if properly planned, can be acceptable

The size of the ecolodge should take into consideration:

- Overall size of the site; larger sites can support more units at a lower density
- Density of vegetation, landforms, and topography that offers privacy and a sense of separation between units and clusters
- Opportunity for clustering, with larger facilities being divided into small clusters of 20–30 units each.

1.1.2 BUILT AREAS

The ecolodge—accommodation units, food and beverage services, and utilities—will be contained within 10 percent of the total surface. The remaining 90 percent will contain strategically-located recreation, access and maintenance facilities, and landscaping for screening, aesthetics, and environmental enhancement.

1.1.3 ACCOMMODATION DENSITY

Density will respect the same standards as for a 4- to 5-star resort at 4–6 rooms/feddan (4,200 m²).

1.1.4 BUILDING TYPES AND HEIGHT

Building Type

The ecolodge can consist of:

- An all-inclusive lodge structure with at least 12 rooms
- One unit/one floor bungalow or cabin (semi-detached or independent)
- One unit/two floor bungalow or cabin (semi-detached or independent)
- A mix of any of the above.

Building Height

The maximum height is 2 floors. The 2-story option has a smaller footprint, provides interesting spatial arrangements, and can offer better views from the unit. The roof may include a patio and/or an observation deck.

1.1.5 SETBACK FROM SHORELINE (COASTAL AREAS)

The legal set back in Egypt for fixed buildings is 200 m. But this is more than necessary for a low impact ecolodge—75 m would be more appropriate unless there is a specific environmental feature to be protected. Light structures (decks and outdoor eating areas) can be 25 m from the high tide mark. For changes contact the Shoreline Protection Authority.

1.1.6 SETBACK FROM ROAD (COASTAL SITE)

The current TDA guidelines are for a 50 m setback from the road, but this may be inadequate for an ecolodge if there is noise and visual contact with vehicles. This manual proposes:

- Minimum setback with no screening: 200 m
- Minimum setback with generous use of screening (vegetation) and constructed landforms or berms: 100 m

1.1.7 SETBACK FROM ROAD (INLAND DESERT SITE)

Desert locations require an adequate setback to provide a sense of isolation in the desert wilderness environment.

- Minimum setback with no screening: 1 km

1.1.8 ROOM SIZE

Room size depends on demand, market positioning, and the proposed mix of room dimensions. The trend has been to offer larger accommodation units while still protecting on-site resources, and they are appropriate in regions where the lodge is competing against resorts with deluxe size rooms at economy rates. All ecolodge units require a balcony or veranda (porch). A kitchenette adds another third to the size of the unit.

The room size options are:

- **Standard ecolodge:** A medium-priced room is approximately 26–30 m²
- **Deluxe ecolodge:** The proposed area for the deluxe room is approximately 35–40 m²
- **Ecolodge suite:** The ecolodge suite has two sleeping areas (bedrooms) and shares a common area with a larger salon and balcony. The proposed area for the ecolodge suite is more than 40 m².
- **Eco-tent unit:** The eco-tent (safari-style) is increasingly popular and reduces capital costs without necessarily reducing the rental rate. The proposed area for the eco-tent is approximately 25–38 m².



1.1.9 ROOM COMPONENTS AND AREAS

The following mix of spatial arrangements is proposed:

- Entry and storage: 15–20 percent
- Living area: 30–40 percent
- Sleeping area: 20–40 percent
- Bathroom/dressing area: 15–20 percent
- Total furniture: 33 percent.

1.1.10 GUEST CIRCULATION, ADMINISTRATION, AND SERVICE AREAS

An ecolodge typically has a reading room and/or resource center and a multipurpose room for viewing videos, presentations (by experts), and local entertainment. Because ecolodges are increasingly popular with the fast growing health and wellness market, facilities to be considered are:

- Office, hallways, lobby, storage, retail space
- Restaurant and lounge
- Health centre
 - Exercise room, sauna, skin treatment and massage room.

Approximately 45–60 m² per room should be considered for all these service facilities.

1.1.11 FOOD AND BEVERAGE AREAS

About 1.1–1.7 m² are required for each guest. The final size of the restaurant depends on the number of restaurants and if there are more than a single sitting. Approximately 50–60 percent of the seating area may be on a covered outside deck.

1.1.12 RECREATION FACILITIES

The mix of recreation facilities will depend on the preferences of the investor and the proposed market mix. It could include tennis court, games areas, and swimming pool. In coastal areas, the use of salt water, evaporation control, and solar generated motors will minimized the impact on water resources. Sizes are:

- Swimming pool surface area: 2–3 m²/swimmer
- Hot tub: adequate for 8–10 persons.

1.1.13 PARKING STALLS

Parking lots can have a significant environmental impact. While most travelers may arrive by minibus, there is a growing independent ‘fly–drive’ market, which requires parking facilities. The proposed mix of cars and buses will determine the size. Lots should be adequately screened with



vegetation and landforms and covered parking stalls (for sun protection). The proposed size of the stalls is:

- Automobile: 2.5 m × 5.5 m
- Motor coach: 3.5 m × 12 m
- 4x4 vehicles: 3.5 m × 6.0 m
- Small truck or camper: 3.5 m × 6.5 m.

1.1.14 ENTRANCE ROAD

The road alignment should be curvilinear and conform to the shape of the topography. Other considerations include:

- Providing views to special attractions of the site
- Controlling views with vegetation and landforms
- Travel surface treatment: compacted local gravel
- Maximum grade: 6 percent
- Surface area to be kept to a minimum, i.e. 7 m wide.

1.1.15 WALKING AND INTERPRETIVE TRAILS

A network of trails enables the guest to experience the natural and cultural resources of the area. Trails should include:

- Interpretive signs identifying local plants
- Seating areas with sun protection
- Natural walking surface using crushed local gravel or flat stones
- Average width: 1.2–1.5 m.

PART 2

Corporate Policy, Stakeholder Participation, and Business Planning



2.1 INVESTOR ENVIRONMENTAL RECORDS AND POLICIES

2.1.1 PREVIOUS TOURISM ACCOMMODATION AND HOSPITALITY EXPERIENCE

Lack of experience is a major cause of bankruptcies in the tourism business. An investor's limited knowledge can affect all aspects of the development, from the hiring of inexperienced architects and engineers to inadequate marketing and employing untrained staff.

A sophisticated investor would have at least 10 years of accommodation experience before building an ecolodge.

2.1.2 ECOLODGE/ECO-ENTERPRISE DEVELOPMENT AND MANAGEMENT EXPERIENCE

Increasingly investors are interested in ecolodge development because they have:

- An awareness of the growing travel consumer interest in environmentally-friendly accommodation
- A serious interest in nature and environmental protection
- A concern for creating local economic development opportunities.

It is therefore possible that a proponent has previous experience in the eco-enterprise sector and has an understanding of the activities (construction, operations, and purchasing) involved in an ecolodge development and operation. Consideration should be given to:

- Previous use of conservation technologies
- Previous experience operating a certified (e.g. ISO 14000) company
- Owning and operating a fully-integrated environmentally responsible company.

2.1.3 CORPORATE ENVIRONMENTAL AND SUSTAINABLE DEVELOPMENT POLICY AND PERFORMANCE STANDARDS

Those investors that currently have a comprehensive corporate environmental policy or code of conduct should be favored. They must demonstrate that they publish the policies, conduct regular audits, monitor results, and have a reporting system in place.

2.1.4 KNOWLEDGE OF EGYPTIAN ENVIRONMENTAL LAWS AND REGULATIONS

The investor must be familiar with national and local environmental laws and be aware of the importance of supporting the regulations. There must be an understanding of both land-based and marine regulations.

2.1.5 DESERT/COASTAL CONSTRUCTION AND OPERATIONS EXPERIENCE

Construction and operation of environmentally-responsible accommodation in the relatively severe conditions of Egypt requires an understanding of the unique conditions including: exceptionally hot weather, a fragile desert and/or marine environment, operating in a sand/rock setting, and scarcity of water. Investors, including their architects, landscapers, and engineers, must demonstrate knowledge of infrastructure design and construction under these conditions.

2.1.6 PARTICIPATION IN REGIONAL/NATIONAL ENVIRONMENTAL AND/OR SOCIAL ORGANIZATIONS AND TOURISM ORGANIZATIONS

The investor should be able to demonstrate active involvement in community, environmental, and tourism affairs at the national and local level. His/her ability to exhibit previous commitments and involvement with associations and organizations will be considered favorable.

2.1.7 MEMBERSHIP IN AN INTERNATIONAL ECOTOURISM/ECOLOGDE ASSOCIATION

Memberships in organizations associated with ecotourism and ecolodges is an indication of the proponent's interest in the sector as well as his/her immediate access to information and statistics.

2.2 LOCAL STAKEHOLDER INVOLVEMENT AND BENEFITS

2.2.1 COMMUNITY RELATIONS INITIATIVES PLAN

The proponent must demonstrate an awareness of and approach to both informing and involving the local communities in the ecolodge development with an emphasis on including them in the design and operations of the facility.

This commitment requires a Community Relations Plan that indicates the initiatives to be taken to establish a relationship between the enterprise and the local stakeholders. The plan may include but not be limited to:



- Knowledge of the local community and formal/informal economy
- Proposed long-term communication and community involvement techniques
- Proposed impacts on local residents including job creation, creation of small- and medium-sized enterprises (SMEs), and loss of privacy

- Opportunities for local involvement in the operations of the ecolodge including cost sharing or co-management arrangements
- Opportunities for local purchases including produce, meats and fish, and handcrafts.

2.2.2 STAKEHOLDER CONTACT AND LOCAL AWARENESS OF THE ECOLOGE PROJECT



The proponent should be able to demonstrate previous contact with the local community with a particular emphasis on:

- Meeting with the leaders of communities within 20 km of the proposed project
- Meeting with tribal groups within 40 km of the ecolodge and particularly those living in a protectorate
- Identifying local labor and skill sets
- Identifying local contractors and

suppliers of construction materials and holding discussions with food and beverage and guide services.

2.2.3 LOCAL OWNERSHIP, EQUITY PARTICIPATION, AND/OR CO-MANAGEMENT

A fundamental component of ecotourism and sustainable tourism development is the distribution of economic benefits from the tourism project to the local communities and residents. The various options available to an investor include:

- **Equity Participation**—One way to ensure distribution of benefits and offer local residents more participation in the overall project is to allocate an equity position in the business. This can be in the form of a joint venture with the local businesses including SMEs, corporations, private investor, lending (credit) institutions, and community associations. Equity can be secured by several means, including the use of community-based finances from a community development association (CDA), support contributions from an international non-governmental organization (NGO) or donor-associated and/or local economic development and environmental protection organization.
- **Co-management**—Local residents can benefit by being allocated a position on the board of directors and a role with the overall management of the facility. This approach introduces locals to management principles, ensures protection of natural resources, and commits the community to support the project. Co-management usually implies financial remuneration to the community through job creation and support for select community initiatives.
- **Local Ownership**—Most communities in Egypt do not have the financial resources to embark on an accommodation project. However, some local entrepreneurs, who perhaps have made profits in other sectors such as fishing or oil, might consider the co-development of an ecolodge in their region.

2.2.4 SPONSOR A LOCAL SCHOOL ENVIRONMENTAL PROGRAM ACTIVITY EACH YEAR

The ecolodge is a catalyst for changing local environmental attitudes. Consequently, ecolodges typically sponsor (or at least participate with local schools) environment-related programs through financial and employee contribution. Employees can make a significant contribution to environmental protection because of knowledge they receive at the ecolodge and can transfer to community and family. There are several themes typically associated with ecolodges including:



- Environmental and biodiversity protection projects
- Water conservation and recycling initiatives
- International conservation programs (e.g., Earth Day)
- Literacy and local education programs
- Waste management and composting programs.

2.2.5 PURCHASE AGREEMENTS WITH LOCAL PRODUCERS AND SUPPLIERS

A good business relationship with local producers and suppliers is an indispensable component of the operations of a quality ecolodge. Not only do contracts and agreements support local economic development but also can ensure that the ecolodge has a good and constant supply of fresh (and frequently organic) produce, fruits, vegetables, meats, and fish. The proponent must identify the types of arrangements that are being considered in the following sectors:

- Produce
- Fish and meats
- Local culture—handcrafts, musicians, and performing artists
- Guides and interpreters

If these services are not available, the proponent should demonstrate their importance by offering the necessary support (financing, training, or technical assistance) to ensure that they are eventually obtainable.

2.2.6 PROMOTION OF LOCAL CULTURE, CRAFTS, CUISINE, AND PERFORMING ARTS

The ecolodge is a regional center for the promotion of local and traditional crafts, foods, and performing artists. The ecolodge and local artists can develop an ongoing program of craft production and sales, demonstration of traditional music and dance, storytelling, and other forms of entertainment.



2.2.7 COMMITMENT TO ACTIVELY SUPPORT COMMUNITY CULTURAL ENHANCEMENT AND SPORTS ACTIVITIES

The strong relationship between the ecolodge and local communities can be accomplished by supporting regular events or initiatives between the ecolodge administration, community leaders, and local organizations.

Typical ventures include:

- Sponsoring a sports team (paying for uniforms and equipment, or underwriting the cost of tournaments)
- Supporting a group of local musicians
- Leading a community clean-up and recycling program.

2.2.8 CONTRIBUTE SPECIALIST STAFF TO ASSIST WITH COMMUNITY INFRASTRUCTURE PROBLEMS AND EMERGENCIES

An ecolodge may have staff that could be of assistance to local communities, especially in emergencies. For instance, the operations engineer has experience in such areas as waste management, vehicle repair, water conservation technologies, pumps, and machinery. Staff can provide technical assistance to communities in the overall operations of their facilities. The chef could provide community classes on nutrition, the lifeguard could offer swimming classes to children, the marketing director could assist with the promotion of crafts and other goods, and the accountant could assist with management of community finances.

2.2.9 APPOINT A COMMUNITY LIAISON OFFICER

In order to establish a relationship with the local communities, one staff person should be responsible for ongoing relationships and communications with the community.

2.3 BUSINESS PLAN, MARKET ANALYSIS, AND FINANCIAL VIABILITY

2.3.1 THE ECOLOGDE BUSINESS PLAN

The ecolodge business plan (EBP) is a key component of the development of the ecolodge and the investor must clearly demonstrate the financial capability of the facility, including:

- An understanding of the specialty markets attracted to the ecolodge
- A focus on sustainable landscape planning and architecture
- A commitment to energy and water conservation and to waste reduction
- Ability to cover all costs associated with the construction, management, and operations of an environmentally-responsible facility.

2.3.2 PURPOSE OF AN ECOLOGDE BUSINESS PLAN

A business plan is a framework and blueprint for the development, marketing, management, and operations of the ecolodge. It describes the goals, tactics, strategies, and management structure and activities to achieve success in the business and:

- Provides a description of the project, including current conditions
- Provides a roadmap that outlines the requirements to establish a sustainable business over a 3–5 year timeframe
- Provides owners and investors with accurate information to determine the amount of capital required, the debt to equity ratio, and the return on investment.

The EBP functions as internal blueprint for owners, operators, and managers, particularly in the first few years of operation

2.3.3 PREPARING AN ECOLOGDE BUSINESS PLAN

Because the EBP is a critical feature in making a decision about the ecolodge project, it is important to review the credentials of the author(s). It may be prepared by the owner, investor, or an independent consulting firm (including several specialists) who can demonstrate experience in:

- All components of tourism business and financial planning from the realistic identification of market demand and revenue projections to operating costs to a break-even analysis
- Market research and an in-depth understanding of the specialty tourism market segment that could be attracted to an ecolodge in Egypt and the particular destination region
- An appreciation of the cost implications (and savings) of integrating environmental technologies and management into capital and operating costs.

There are a few conditions that are specific to an ecolodge that can affect the risk associated with the business, including:

- Loss of environmental integrity, including changes in the environmental quality of adjacent lands and marine areas (e.g., loss of land and marine species, landscape destruction, or poorly planned facilities)

- Inadequate waste management resulting in litter and marine debris throughout the region
- Loss of traditional cultural values because tribal people leave the region (urban migration) for employment
- The additional costs associated with interpretive programs, guide services, and contributions to conservation.

Structure of the EBP

The EBP should provide adequate research and information to make a realistic assessment of costs and revenues of the facility including the annual profit and loss. The individual components and details of the business plan are as follows:

- **Executive Summary**
 - A clear and concise summary of the components of the sustainable tourism business model
 - Description of the company experience and the owner/investor’s commitment to responsible business practices, community relations, and local economic development
 - How the facility will respond to market demand and react to competition
 - Specific competitive advantages such as proximity to a national park, coastal resources (e.g. coral reefs), heritage facilities, and tribal people
 - Opportunities to use the lodge as a vehicle for conservation of Egypt’s resources.
- **Description of the Company** (investors, owners, partners, and managers)
 - A brief description of the company history and experience in the accommodation sector and knowledge of eco-business practices and operations
 - Specific knowledge of the ecotourism sector as well as other markets (spa and health and well-being) to be attracted to the property
 - Role of professional planners, and sustainable architects and engineers to be hired for the development of the project.
- **Project Ecolodge Business Description**
 - The property location, legal description, and an adequate depiction of the site and the adjacent area (a site location map is appropriate)
 - A general narrative outlining the proposed ecolodge business model, including mission statement, goals, and objectives
 - Business objectives, rational for success, and a description of products, services, and contributions
 - An explanation of sustainable tourism and the ecolodge business and how it will be positioned in the region
 - Overview of the natural and cultural resources of the site, the adjacent areas, and the region (unique landscape and species and tribal customs)
 - Financing (and support funding, if applicable) sources and trustworthiness
 - Anticipated business growth, profit, and financial success
 - Indication of contact with local stakeholders including, if appropriate, tribal people.

- **Ecolodge Market Analysis**
 - An in depth description of the scope of the sustainable, ecotourism, and nature/heritage-based tourism markets, including bird watching, hiking, diving, tribal/nomad tourism, nature photography, heritage travel, and health and wellness
 - A detailed trend analysis identifying those demographic, geographic (origin), and psychographic (motivational) trends that are shaping travel, particularly in Western Europe
 - Statistical data drawn from both secondary research (by country of origin) as well as a survey of the travel trade (international and domestic) to determine interest in the proposed project (include any questionnaires used in a survey)
 - A market profile for each market segment, including age category, expenditure patterns, educational level, and activity preferences.

- **Competition Analysis**
 - The business plan should identify those that are clearly the competition in Egypt and the North Africa/Mediterranean region
 - Surveys of foreign tour wholesalers should identify competitors in other destinations—countries with similar resources such as coastline, desert, tribal/nomadic cultures, and national parks
 - An analysis of the competition should include (but not be limited to) pricing, amenities, available tour products, use of environmental practices and technologies, accessibility, and natural and cultural resources and attractions
 - Local competition analysis should consider the potential of existing hotels to ‘go green’ and offer a similar eco-friendly product
 - A description of the proposed project’s competitive advantage and actions that will enable the business to maintain that position (such as services, marketing, and/or access to unique resources)
 - Indicate how the business will compete against other facilities in Egypt that claim to be an ecolodge but offer few of the benefits and are typically inexpensive.

- **Market Study and Visitor Projections**
 - Provide an overview of the market research techniques that were used, including season and selected countries
 - Identify preferred market segments that would be attracted to the site and the adjacent region and obstacles that might prevent success
 - Describe in detail each potential individual targeted market on a segment-by-segment basis including their potential to be attracted to the region and the success of the competition in attracting similar markets
 - The profile of the proposed ecolodge visitor should include preferences for package trips over independent travel, customized trips over fixed itineraries, amenities and experiences, organic foods, interacting with local residents, and educational programs
 - Market projections, on a segment-by-segment and month-by-month basis (including seasonal variation) are required for the first 5 years of the operation
 - Identification of marketing partnerships and arrangements, including third-party Internet sites, regional tourism organizations, and other regional hotels.

- **Operations Plan**—description and details about the day-to-day running of the ecolodge including:
 - Numbers of employees, functions, green team and environmental coordinator, naturalist, and guides
 - Description of functional areas of the business (accounting, administration, reservations, housekeeping, kitchen, dining, common areas, and guest rooms)
 - Description of ongoing conservation and resource protection initiatives
 - Available services, including food and beverage services; accessible features (trails); guest activities; tour itineraries; available on-site equipment such as kayaks and bicycles
 - Participation of the local communities in the ongoing operations (labor, contract services, and village visits)
 - Legal issues, regulations, and insurance.
- **Management Structure and Organization**—The investor should:
 - Provide names, credentials, and experience of all the management staff
 - Identify the responsibilities of each position, particularly the director or ecolodge manager
 - Identify training and apprentice programs to improve the qualifications of the management and local staff
 - Indicate access to additional individuals and consultants that can offer input into ensuring successful operations.
- **Financial Plan and Projections**—this section must be prepared by a person with experience in financial analysis such as an accountant or tourism management consultant, and must:
 - Demonstrate the financial viability of the ecolodge business
 - Demonstrate when the project will be profitable (what year) and the return on investment
 - Identify the cash requirements to launch and sustain a successful business
 - Based on standard and accepted accounting practices, the plan should include performance income statements; balance sheets and financial projections (assets and liabilities); financial analysis (cash flow), including capital spending, cash flow from operations, sensitivity analyses and financial ratios; and cash flows to be estimated monthly (including seasonal variations).
- **Monitoring and Evaluation**
 - Identify techniques for on-going assessment of financial performance and appraisal of environmental objectives in terms of energy and waste reduction; water conservation; and contributions to biodiversity conservation, community well-being, employee education, and visitor awareness.
- **Appendices**—additional information to support the assumptions in the EBP, including:
 - Market research questionnaires and results
 - Minutes of meetings with local stakeholders
 - Location maps and references
 - Architectural and engineering sketches.

PART 3

Physical Design and Equipment



3.1 SITE SELECTION, EIA, AND SITE DESIGN

The site selection process, EIA, and overall site design are critical to demonstrating an investor’s understanding of the local environment and the environmental issues associated with the development of the site.

This stage of the planning process must be comprehensive and clearly demonstrate that all measures have been taken to ensure the minimal environmental degradation to the site and surrounding area. Furthermore the EIA must identify the social and economic impacts on the local communities and proposed mitigation measures.

3.1.1 COMPREHENSIVE SITE SELECTION PROCESS

Typically, several sites are considered before an investor settles on a specific location. In order to select the best possible site the proponent usually follows a site selection process leading to the final selection.

A typical site selection matrix could include the criteria illustrated in Table 1.

Table 1 Site Selection Matrix

Selection Criteria	Site 1	Site 2	Site 3
SUITABILITY			
1. Adjacent community			
2. Proximity to highway (access)			
3. Access to shoreline			
4. Attractive views			
5. On-site natural resources			
6. On-site cultural resources			
7. Multi-community potential			
8. Access to Deep Range			
9. Multi-activity potential			
10. Compatibility: adjacent land			
11. Remoteness and seclusion			
12. Distance from airport			
13. Four season potential			
14. Wastewater treatment			
CAPABILITY			
1. Size of site			
2. Accessible foreshore			
3. Expansion potential			
4. Ownership			
5. Overall response to market			
7. Stakeholder concerns			
8. Financial sustainability			

Selection Criteria	Site 1	Site 2	Site 3
ENVIRONMENTAL IMPACT			
1. Irreversible loss			
2. Rare species			
3. Landscape alteration			
5. Disturbance of fauna			
TOTAL POINTS			

3.1.2 SITE INVENTORY AND ANALYSIS

A comprehensive mapping and site inventory of all features and assets is required, including all land and if appropriate, coastal zone and adjacent marine resources. The resources can be grouped as follows:

- Land use
- Topography and landforms
- Geology, hydrology, and soils
- Wetlands/salt marshes
- Vegetation
- Wildlife/habitat
- Climate and microclimates
- Air quality and noise
- Heritage, cultural, and archaeological features
- Tourism-related infrastructure
- Views and viewsapes (to and from the site)
- Special environmental features.



3.1.3 ENVIRONMENTAL IMPACT ASSESSMENT

By law, all lodging developments require an EIA. This is also a critical part of the ecolodge planning process. The proponent must hire responsible professionals and undertake an adequate EIA. The final EIA Report must include, more or less, the following components:

1. Introduction to the project
2. Description of an EIA for an ecolodge
3. The ecolodge EIA process
4. Policy, legal, and administrative framework
5. Description of the area and site environment
6. Description of the proposed project
7. Significant environmental impacts
8. Socio-economic analysis of project impacts
9. Analysis of alternatives

10. Mitigation action or measures
11. Environmental management and training
12. Monitoring program or plan
13. Public and community involvement
14. EIA review process
15. List of references

A more detailed description about preparing the EIA, as it applies to ecolodge development in Egypt, can be found in Annex II.



3.1.4 SITE ACCESS AND ACCESSIBILITY

The investor must provide a description of access to the site by land and/or water. Emphasis is placed on protecting the environment through a minimal level of road construction and disturbance of the landscape. Preferable locations are relatively close to existing highways and have an existing road base to the property.

3.1.5 SCREENING AND INTEGRATION WITH LANDFORMS

Many ecolodge sites in Egypt have little vegetation. Therefore it relatively easy to use landforms (berms) to:

- Screen negative features such as roads and traffic from the ecolodge site
- Create a separation between the ecolodge and adjacent facilities
- Screen the ecolodge from the views onto the site
- Partially obscure such features as the parking lot, utility buildings, and maintenance facilities.

The use of landforms can integrate the ecolodge into the wider landscape with its hills and mounds. These berms can also be used to:

- Direct wind movement to increase natural ventilation
- Control wind and offer protection in exposed areas or blowing sand
- Create a sense of privacy in different parts of the ecolodge
- Cluster vegetation around select landforms.

Landforms must be smooth and curvilinear and appear to be a completely natural shape. Fill should come from site excavations.

3.1.6 ECOLOGE LOCATION, LAYOUT, AND ORIENTATION

The overall layout of the ecolodge and associated development must reflect the dual purpose of creating a comfortable and attractive environment while protecting the natural site features. To achieve this standard the proponent should ensure these conditions have been created:

- Visitor experience and ambience
 - Views within the site and to the surrounding landscape are attractive
 - Adequate shade is provided by vegetation and facility orientation
 - Local winds are funneled for natural ventilation
 - Individual accommodation units have both privacy and attractive views
 - Movement around the site and to the various facilities is efficient.
- Environmental Protection
 - All special environmental features are protected by limiting access
 - Only essential facilities are constructed adjacent to the beach, other focal points, or important natural features
 - The overall footprint of all buildings are kept to a minimum.

3.1.7 NATURAL/CULTURAL/ARCHAEOLOGICAL RESOURCE PROTECTION MEASURES

Significant ecological or cultural features are a major asset and can provide a sense of place and identity to the ecolodge. If the selected site has several unique features such as wetlands, specimen trees, or mangroves, they must be protected throughout both construction and the operating phases. The guest will typically be interested in unique features, so an interpretive program will be appropriate.



3.1.8 LANDSCAPE AND BIODIVERSITY ENHANCEMENT, LANDSCAPE PLANTINGS, AND INTERPRETIVE TRAILS

If the site has already been partially disturbed, the development of the ecolodge provides an excellent opportunity to restore the area to its former quality. Even if the site has not been disturbed, it may be possible to increase biodiversity to enhance the ecological quality, improve the site ambience, and create an interpretive program.

3.1.9 USE OF NATIVE AND DROUGHT-RESISTANT LANDSCAPE VEGETATION



Local materials are aesthetic and practical. There are many attractive trees and shrubs, particularly in desert locations, that reflect the character of the local environment, are very hardy, and require minimum maintenance. The use of plants that require a minimal amount of water (xeriscape) reflects the facility's awareness of water as a limited resource and the intent to use as little of it as possible. Compost (from kitchen waste) enhances the water retention capacity of the soil.

3.1.10 USE OF NATIVE TREES TO PROVIDE SHADE AND REDUCE HEAT GAIN

Summer temperatures can be significant and cause the guest units to become hot, despite use of natural ventilation to reduce temperatures. Heat gain can be reduced by providing shade from larger trees. The Acacia provides a natural source of shade to all buildings and terraces.

3.1.11 MINIMAL SITE DISTURBANCE AND COMPACTION

The typical coastal and desert site is flat and treeless. Consequently, any modifications to the site are immediately visible and tracks from construction vehicles can leave scars that last for many years. Therefore, use heavy equipment as little as possible in the construction process, and employ manual labor to ensure sensitive treatment of the landscape.

3.1.12 NON-OBTRUSIVE OUTDOOR LIGHTING

Landscape lighting should be kept to a minimum, with solar-powered path lights installed at 0.5 m from the ground, and parking lot lighting installed at 4 m from the ground. Lights should be directed directly onto the desired surface and oriented away from the sea and beach in coastal locations.

3.1.13 ENVIRONMENTALLY-FRIENDLY RECREATION FACILITIES

There are many recreation companies that offer equipment and facilities that have low impact on the environment. Possible features might include chloride-free saltwater pools, natural surface (gravel or local grasses) games area, or energy efficient (solar) hot tubs with evaporation covers.

3.1.14 SITE DESIGN, ENVIRONMENTAL AWARENESS, AND AMBIENCE

Careful site planning can educate visitors about local environmental values through the following techniques:

- Use of interpretive signs to explain the natural values of the site's ecosystems, vegetation, and wildlife habitats
- Duplication of local plant community associations

- Private areas for relaxation, meditation, and contemplation
- Attractive views that promote the aesthetics of the region and the coastal and desert zones.

3.1.15 COMPREHENSIVE SITE DESIGN SPECIFICATIONS AND SUPERVISION

The quality of the final site development is determined by the excellence of the final site plan. Investors must demonstrate:

- An understanding of the natural site values to be protected
- The use and maintenance of local indigenous plant material
- Professional site planning and design that creates a quality guest experience.

3.2 SUSTAINABLE ARCHITECTURAL DESIGN AND ENGINEERING

Sustainable architectural design is essential to offering guests an environmentally responsible experience. With hundreds of ecolodges worldwide there is a large body of knowledge readily available for investors.

3.2.1 EXPERIENCED PROFESSIONAL SERVICES

The previous experience of the consulting firms is a reliable indication of the quality and sustainability of the proposed development. These design and engineering services should include:

- Architects with previous experience with the design of environmentally responsible tourist accommodation and knowledge of sustainable architectural practices, materials, and construction techniques
- Landscape architects with previous experience in desert landscaping (materials, construction techniques, and drip irrigation)
- Engineers that understand current environmental technologies including solar and wind power, water conservation, recycling, and waste management.

3.2.2 MATERIAL LIFE-CYCLE ANALYSIS

A life cycle design (LCD) or “cradle-to-grave” approach recognizes environmental impacts of the entire life cycle of all architectural resources, from extraction to manufacturing to procurement, and eventually the return to nature

The proponent’s sustainable architect and engineer must clearly demonstrate that an analysis was conducted on the environmental impact of all materials in the construction of the ecolodge.

A comprehensive list of the principles associated with ecolodge planning and development life cycle analysis is available in the complete Ecolodge Manual, available from the Tourism Development Authority.

3.2.3 USE OF CURRENT ALTERNATIVE TECHNOLOGIES

The architect and engineer should demonstrate that they have conducted adequate research and specified the most effective environmentally responsible technologies, including:

- Energy use (lighting, cooking, refrigeration, vehicle fuel, and laundry)
- Water conservation and recycling, using flow restrictors and metering
- Waste management and recycling.

3.2.4 ARCHITECTURAL PROGRAM AND LAYOUT OF FACILITIES

The basic requirements of an efficient and attractive lodging facility include:

- Orientation to the most attractive views (rooms, restaurant, and other public spaces)
- Generous use of local landscape materials
- Attractive rooms with private outdoor space (patio or balcony)
- Spacious dining areas with panoramic views and gardens.

3.2.5 SUITABLE SCALE OF DEVELOPMENT

This manual acknowledges that the ecolodge can exceed 50 units if good site planning and architectural scale ensures that a guest experiences an expected level of privacy and exclusivity. This can be achieved through small clusters of 10–12 units, appropriate building mass, and vegetation for screening and facility orientation.



3.2.6 INTERIOR AMBIENCE AND EFFICIENCY

Interior spaces must be designed using minimal resources while still offering a comfortable environment. These require the following considerations:

- Natural lighting through proper placement of windows
- Natural ventilation (air scoops and cross ventilation) and shading
- Attractive views and direct visual contact with the surroundings.

3.2.7 ARCHITECTURAL MOTIF

The ecolodge must reflect the local architecture of the region, which may include expressions from those of the traditional people or a more regional Egyptian style. The motif will be demonstrated in the facility's materials, colors, scale, and textures.

3.2.8 USE OF COLOR

Muted earth tones that blend with the local environment and reflect light are the best colors for the Egyptian environment. Local materials (sand, wood, and clay) support a palette of natural colors.

3.2.9 DOUBLE GLAZED GLASS AND OVERHANGS

Most ecolodges do not have air-conditioning although solar-powered fans are acceptable. In order to reduce heat gain and maintain a relatively cool interior sleeping unit, it is necessary to have operable double glazed windows, overhangs, and shutters.

3.2.10 STAFF-EFFICIENT DESIGN AND BUILDING LAYOUT

The facility layout must demonstrate efficient movements for both guests and staff as they walk around the site. This includes:

- Direct links between guest rooms and common areas
- Efficient connections among the components of the food service areas.

3.2.11 LEADERSHIP IN ENERGY AND ENVIRONMENTAL DESIGN PROGRAM

The Leadership in Energy and Environmental Design (LEED) Program was established by the United States Green Building Council and provides one of the better descriptions of an environmentally responsible building. Information is available to the proponent at www.usgbc.org/LEED

3.2.12 CONSTRUCTION DRAWINGS, SPECIFICATIONS, AND SUPERVISION

Professional, comprehensive architectural, site planning, and design and engineering drawings must be prepared in order to demonstrate commitment to an environmentally responsible facility.

3.3 BUILDING AND LANDSCAPING MATERIALS

3.3.1 LOCAL (AND NATURAL) BUILDING MATERIALS



There are many attractive building materials readily available in Egypt. They include, but are not limited to, the following:

- Stone, sand, and old coral from excavation sites
- Reed, bamboo, cotton, and organic hemp

These materials are attractive and eliminate the necessity of using energy-intensive materials such as concrete and metals.

3.3.2 LOCAL VEGETATION FOR LANDSCAPING

Imported ornamental plant materials, including grasses, shrubs, and flowers, should not be used. Instead the site should be landscaped with local materials available within the region approximately 100km from the site. The plant list will depend upon the exact location of the ecolodge. Many nurseries in Egypt can provide appropriate materials.

3.3.3 RECYCLED BUILDING MATERIALS

Recycled building materials and furniture can be brought from outside the local area. There are many markets around the country—particularly in Cairo and Alexandria—that specialize in recycling all sorts of useful items: wood (doors, window frames and shutters, beams), metal (structural steel, interior items), glass (windows), and roofing materials, for example.

3.3.4 WOOD FROM SUSTAINABLE FORESTS OR GROWN IN EGYPT

Wood is a desirable material because it is attractive, natural, and available in Egypt. Wood may be imported from outside if it is from a certified sustainable forestry operation.

3.3.5 LOCALLY-MADE FURNITURE, FIXTURES, AND DECORATION

All furnishings and fixtures could be made locally in most regions of Egypt. It should not be necessary to import furniture to the site from Cairo.

Local furniture may include:

- Tables and chairs
- Clothes storage and bed frames
- Kitchen cabinets
- Bookshelves and night tables.

3.3.6 TOXIC/OFF-GASSING MATERIALS AND FURNITURE

The use of local furniture supports local labor and ensures that there is no use of furniture containing Volatile Organic Compounds (VOCs) or other toxic chemicals such as formaldehyde.

3.3.7 DURABLE, LOW-MAINTENANCE MATERIALS

Select durable materials that will have a long life and keep replacement to a minimum.

PART 4

Construction Techniques and Procedures



4.1 CONSTRUCTION TECHNIQUES AND PROCEDURES

4.1.1 CONTRACTOR EXPERIENCE WORKING IN SENSITIVE AREAS

The selected contractor must have previous experience in sensitive sites and demonstrate:

- An understanding of how to protect local vegetation and ecosystems
- Use of low impact and manual construction techniques
- The participation of local labor at all phases of the construction.

4.1.2 PROTECTION OF THE SITE

Sites resources and features will be protected by:

- Fencing areas or zones of special importance
- Restricting the construction footprint around the building site
- Maintaining only one vehicle access corridor within the site
- Removing excavated materials to a designated off-site location or an on-site location for the construction of berms and aesthetic landforms
- Completely enclosing all vegetation areas with adequate barriers
- Use of manual labor when possible instead of equipment.

4.1.3 SIMPLE, LOCAL BUILDING TECHNIQUES

To increase the opportunity to use local labor the architect and engineer should incorporate relatively simple building techniques including:

- Use of local materials and traditional construction techniques that are known and familiar to the area contractors and laborers
- Adaptation of traditional tools to meet the requirements of a modern building.



4.1.4 LOW-IMPACT CONSTRUCTION TECHNIQUES

When possible it is preferable to use manual (including mule and camel) labor over construction equipment and machines. Manual labor can be used to:

- Dig and prepare trenches
- Move light material around the site (mule and cart)
- Prepare and construct all trails
- Plant vegetation and construct landforms.

4.1.5 LOW-ENERGY TOOLS/LOW-IMPACT CONSTRUCTION EQUIPMENT

There are currently several options and construction techniques that can be used including:

- Tools powered by solar batteries
- Small excavation equipment (backhoes and lawn tractors)
- Energy Star-rated tools and equipment and battery chargers.

4.1.6 SITE SUPERVISION EMPHASIZING RESOURCE PROTECTION

There should be continual site supervision during the construction period and site supervisors must be introduced to the reason for protecting the site resources. Failure to protect the resources could result in penalties to be paid by the contractor.

PART 5

Conservation



5.1 ENERGY CONSERVATION

5.1.1 ENERGY CONSERVATION AND MONITORING

A professional Energy Conservation Measures and Monitoring Plan must accompany all ecolodge proposals. This plan may include but not be limited to:

- Renewable energy or co-generation schemes (solar, wind, thermal, or fuel cell)
- Energy management systems
- Real time metering and sub-metering to establish load profiles throughout the lodge
- High-efficiency (including propane) appliances
- High-efficiency thermal water heaters and instantaneous water heaters
- Waste heat/energy recovery systems (air and steam)
- Efficient piping design (steam, water, and glycol piping)
- Efficient compact florescent lighting and reflectors.



5.1.2 SOLAR PANELS AND PHOTOVOLTAIC SOLAR ENERGY

Solar panels should be used to heat water and generate electricity for select appliances such as fans, lights, and kitchen equipment. Depending on the size of the facility, a small solar plant, using a parabolic dish may be considered. Solar equipment such as cookers, ovens, and trail lighting should be considered.

5.1.3 THERMAL HOT WATER HEATERS

Thermal or solar water heaters are the most efficient and natural way of heating water. Each sleeping unit and bathroom must have its individual heater. The contractor could build an on-site system using local labor and recycled materials such as bottles and hoses.

5.1.4 WIND/HYBRID POWER SOURCES

Egypt's coastal areas provide a source of wind energy. At least some part of the Energy Conservation Measures should consider a small wind turbine, if only for research and/or a demonstration of wind power in a smaller lodging facility. A small 3–5 kW system could generate most of the electricity needed for the kitchen.

5.1.5 LOW-ENERGY CONSUMPTION APPLIANCES

High efficiency appliances are necessary to reduce the energy load when using renewable energy systems and must be used throughout the lodge including sleeping units, kitchen, maintenance, and housekeeping. The U.S. Energy Star rating system or equivalent can be used to assess the efficiency of each unit.

5.1.6 LOW-CONSUMPTION FIXTURES AND OCCUPANCY SENSORS

Occupancy sensors and compact florescent lighting are now common worldwide in most hotels and resorts and are essential for an ecolodge.

5.1.7 SOLAR ENERGY FOR THE LAUNDRY

Drying laundry can be one of the largest sources of energy demand in a resort. The ecolodge should incorporate drying racks or clotheslines.

5.1.8 SUB-METERING BY DEPARTMENT

Sub-metering should be installed in guest units, the kitchen, and maintenance areas to:

- Provide details about the amount and timing of energy use in order to adjust and manage the energy use
- Identify and implement operational strategies to control load factor and peak load requirements, and reduce energy waste
- Understand and improve consumption patterns
- Measure and verify anticipated energy savings from modifications
- Highlight anomalies in electric consumption.

5.1.9 INSULATE HOT WATER PIPES

All pipes associated with the distribution of water are to be insulated to prevent energy loss.

5.1.10 PREVENTATIVE MAINTENANCE FOR ELECTRICAL INSTALLATIONS AND EQUIPMENT

A preventative maintenance program should include:

- Requirements for electrical troubleshooting
- Process for performing basic circuit checks for shorts, opens, and ground faults
- Requirements for performing continuity and resistance checks on relay coils and contacts, overloads, fuses, circuit breakers, switches, and other control circuit components
- Troubleshooting basic electrical control circuits to develop a logical, systematic approach to troubleshooting
- Testing single-phase power distribution systems for correct wiring
- Regularly reading the ecolodge electrical drawings and electrical floor plans.

5.1.11 GUEST ENERGY-USE AWARENESS PROGRAM

Ecolodge guests are generally environmentally responsible and will contribute to energy conservation initiatives. An awareness program can provide an education on energy conservation as well as maintain energy use at a minimum.

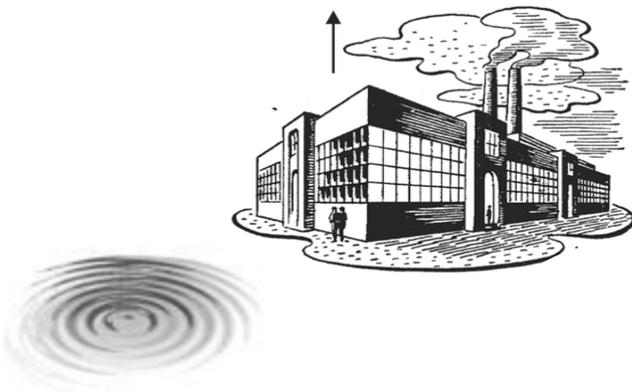
The program may include:

- Description of renewable energy sources used in the ecolodge
- Available energy consumption for each client
- Individual methods to conserve energy while at the ecolodge
- Results of sub-metering (by accommodation cluster) on a weekly basis.

5.1.12 HYBRID VEHICLES AND FUEL-EFFICIENT BOATS

There are more opportunities than ever to purchase minivans and trucks with hybrid motors and boats for up to 16 passengers that are powered by electrical motors.

5.1.13 DESALINATION PLANT



Desalination is energy-intensive, although methods have been developed for reducing energy demand. For instance:

- Reverse osmosis desalination plants consume less energy than evaporation (EV) plants; hybrid plants utilize both EV and reverse osmosis units
- Ecolodge desalination units situated along the coast may have enough wind for powering a reverse osmosis unit with wind turbines
- Photovoltaic (PV) systems are more expensive than wind turbines, but they could be a good solution for Egypt, particularly in remote desert areas where there is no electricity grid and little wind. A 250 m² PV surface is needed to supply 125 guests and staff with 150 liters of fresh water per day.

5.1.14 BACK-UP GENERATOR

Most energy at the ecolodge should be from renewable sources; however, it may be necessary to have an energy efficient back-up generator. The latest fuel cell equipment is extremely efficient and will serve the needs of most medium-sized (40–50 units) properties.

5.2 WATER CONSERVATION AND RECYCLING

5.2.1 WATER CONSERVATION

A water conservation plan should include, but not be limited to:

- Indicating water conservation planning goals and targets
- Reuse and recycling plans
- Demand forecast by department (kitchen, maintenance, and guest quarters)
- Description of water conservation measures

- Analysis of benefits and costs
- Implementation procedures for a Water Strategy and Monitoring Plan.

5.2.2 GRAY WATER TREATMENT AND RECYCLING

The gray water distribution system should match the ecolodge output. A common system is the branched drain to mulch basins, planting areas, or mini-leach fields. This system is inexpensive and reliable, but requires continuous downhill slopes from the points of gray water generation to the points of irrigation and needs at least a ¼-inch per foot slope.

5.2.3 DRIP IRRIGATION

Drip irrigation is the slow application of water directly to the plant’s root zone. Maintaining an optimum moisture level in the soil at all times results in less water lost to the sun and wind.

Other advantages include:

- No water is wasted on rocky, non-growth areas
- The root zone is maintained at its ideal moisture level
- Drip emitters are usually rated at 4–8 liters per hour.

Drip irrigation targets the vegetation around buildings and is used to accelerate the growth of vegetation that provides visual screening, channels cooling winds, and creates shade.

5.2.4 WATER SAVING DEVICES

- Housekeeping, maintenance, and operations—Water saving devices includes low-flow restrictor valves and water saving nozzles. Gray water can be used for washing in the maintenance area.
- Guest rooms—Water saving devices includes low-flow restrictor valves, low-flow showerheads, and low-flush, dual-flush, or compost toilets.
- Kitchen and laundry—Water saving devices include water-efficient washers, low-flow pre-rinse spray valves, sink aerators, and leak detection equipment.

The architectural specifications will identify the devices to be used in the facility.

5.2.5 LEAK ASSESSMENT PROGRAM AND LEAK REPORTING

Leaks can be stopped with leak detection equipment and an ongoing assessment, reporting, and maintenance program.

5.2.6 COMPOST TOILETS/DUAL OR LOW-FLUSH TOILETS, AND WATERLESS URINALS

A decision is required before choosing to use compost or low-flow (or dual flush) toilets. Compost toilets may be more efficient because of the cost of water. They also add organic material to the sandy Egyptian soils.

Low-flush toilets are designed to use 6 liters of water per flush, significantly less water than conventional toilets.

5.2.7 RECORDING TOTAL WATER CONSUMPTION

Electronic water consumption devices should be installed in all departments and guestroom clusters.

5.3 WASTE MANAGEMENT AND RECYCLING

5.3.1 WASTE MANAGEMENT PLAN

A Waste Management Plan should be in place during the construction phase and then for the ongoing operations. By proactively managing wastes, the ecolodge can reduce operating costs, preserve local nature attractions such as coral reefs and beaches, and reduce odors and pest infestations.

An effective waste management plan ensures the long-term sustainability of fragile coastal and desert ecosystems and preserves the natural beauty of beaches, coral reefs, deserts, and *wadis*.

The waste management plan should demonstrate these benefits:

- Reduced manpower requirements for waste handling and disposal
- Reduced haulage and landfill tipping fees
- Possible revenue from the sale of recyclables
- Protection from insect and rodent infestations
- Improved community relations
- Compliance with government regulations and codes
- Reduced odors and improved aesthetics and sanitation.

5.3.2 REDUCED PACKAGING MEASURES

The ecolodge should take measures to reduce all packaging including:

- Negotiating with suppliers to reduce packaging and purchase in bulk
- Encouraging guests to reduce what they bring to the ecolodge
- Minimizing the purchase of products with excessive packaging and avoiding Styrofoam packaging altogether
- Returning boxes, crates, bottles, and containers to suppliers.

5.3.3 USE REFILLABLE AMENITY DISPENSERS

Amenity bottles of shampoo, body lotion, soap, and creams can be avoided with the installation of soap and shampoo dispensers in guest bathrooms.

5.3.4 KITCHEN AND LANDSCAPE COMPOSITING AND DISPOSAL PROGRAM

All vegetable kitchen and yard waste should be stored, composted, and scattered around the site's landscaping plants, including those used for screening the ecolodge and for planting beds.

5.3.5 SEPARATING AND RECYCLING WASTES

An ecolodge can undertake its own separation and recycling program. Materials will be taken to the nearest materials recovery center, using suppliers trucks or the ecolodge vehicles. Metal, glass and hard plastics (from guests), paper, cooking oil, and motor oil can all be recycled.

5.3.6 DONATING TO THE LOCAL COMMUNITY

As part of ongoing cooperation with local communities, the ecolodge could donate the following materials:

- Excess gray water, for community gardens
- Non-returnable glass beverage bottles
- Office paper and equipment
- Containers from suppliers
- Old linens and towels
- Damaged furniture

5.3.7 NO SINGLE PACKAGING

All sugar, cream, juice, and condiments should be bought in bulk, stored in glass containers, and distributed to guests in bowls, pitchers, and jars.

5.3.8 PREPARE CLEANERS AND PESTICIDES ON SITE

All cleaners, polishes, and pesticide should be biodegradable, non-corrosive, non-toxic, and phosphate-free. They should be prepared on site by local employees, and include pesticides, all-purpose cleaner, air freshener, furniture polish, and glass cleaner.

5.3.9 EDUCATE GUESTS TO RECYCLE AND SEPARATE WASTES

Guests are encouraged to bring as little as possible to the ecolodge. Once on site they should be informed of the lodge's separation and recycling policy. Colored boxes should be in each guest room to enable the separation of waste.

5.3.10 SEPARATION AND STORAGE OF SOLID WASTE BEFORE DISPOSAL

A location, possibly adjacent to the maintenance area and composting bins, should be set aside for the separation of all materials dedicated for recycling. A contracted member of the community could be responsible for this activity.

5.4 LAUNDRY, HOUSEKEEPING, AND KITCHEN DEPARTMENTS

Because these three departments are particularly large consumers of water and energy, a significant effort must be made to specify the most energy and water conservation efficient equipment and appliances.

5.4.1 ENERGY STAR PROGRAM (OR EQUIVALENT) APPLIANCES

This rating system applies to appliances such as dishwashers, steam cookers, freezers, refrigerators, exhaust fans, washing machines, and vacuum cleaners.

5.4.2 INSTALL ENERGY AND WATER EFFICIENT EQUIPMENT

- Dishwashers with short cycles, that reuse water, and have heat recovery options
- Proximity-style (back shelf) exhaust hood with variable speed
- Ozone to disinfect hands, foods, and food preparation surfaces
- Washing machines

Select appliances with the highest rating and with multiple washing cycles and ozone treatment.

5.4.3 TOWEL AND LINEN REUSE

Ecologde guests are usually familiar with towel and linen reuse programs; however, reminder cards should be placed in each room.

5.4.4 ENVIRONMENTAL MANAGEMENT SYSTEM OPERATIONS MANUAL

An operations manual based on an Environment Management System (EMS) should be prepared for each department: laundry, kitchen, guest rooms and house keeping, and maintenance.

The EMS Operational Manual should include:

- Organizational structure
- Planning activities
- Responsibilities
- Practices, procedures, and processes
- Resources for developing, implementing, reviewing, and maintaining the environmental policy.

The manual is a mechanism to operate in an environmentally-responsible manner, anticipate and meet growing environmental performance expectations, and ensure ongoing compliance with regulatory and legislative requirements.

It provides each department with “dos” and “don’ts” and ready-to-use operating instructions that can be used at the management and staff levels in every department of the ecolodge. It may include a checklist through which the individual departmental supervisors can monitor

environmental performance and assess improvements after a planned and phased implementation.

5.5 PURCHASING PRACTICES

5.5.1 PURCHASING AND CONSUMPTION PLAN

'Pre-cycling' and waste reduction means choosing products with a longer lifespan, discouraging the use of single-use, disposable items, buying concentrates to cut down on wasteful packaging, and choosing products designed for recycling.

The pre-cycling plan may include:

- Buying products in bulk or concentrate and transporting it to the ecolodge in reusable containers
- Returning refillable bottles for reuse.

The plan should also consider:

- Product reuse (without changing it's form)
- Purchasing items with longer product life
- Reduced material and energy use in product design and manufacture
- Changing guest purchasing, consumption, and waste producing habits.

5.5.2 BUYING IN BULK AND RENTING

There are ample commodities for bulk buying in the lodging sector. For instance, amenities such as soap, shampoo, conditioner, and lotion should be purchased in bulk and offered in dispensers. Some equipment may be rented.

5.5.3 PURCHASE RECYCLED MATERIALS

Whenever possible, purchase supplies made from recycled materials in order to close the recycling loop and keeping the cost of recycled goods competitive. Therefore:

- Identify items that contain post-consumer recycled content (office supplies and brochures, for example)
- Purchase remanufactured toner and printer ribbon cartridges
- Use plates, glasses, and flatware made from recycled materials.

5.5.4 BUY LOCALLY

It is preferable to buy goods and services locally, especially food products such as fruit and vegetables, fish and (inspected) meats. Investors should initiate contractual arrangements with local small businesses and individuals.

5.5.5 PRODUCT PURCHASING POLICY

Investors should prepare a purchasing policy with initiatives that:

- Avoid purchasing equipment or materials that are single-use and/or disposable when long-life alternatives exist
- Provide guidelines that minimize procuring single-use, disposable products where it does not compromise the quality of the visitor experience
- Establish purchasing goals to increase the number of reusable products or products that can be reprocessed
- Select vendors who are willing to meet waste minimization goals and develop a preferred list of vendors based on those who are willing to help provide reusable product alternatives
- Where alternatives are not feasible, continue to work with vendors to seek reusable, durable products for substitution.

5.5.6 LIFE-CYCLE AUDITS FOR PURCHASED MATERIALS

A product's life cycle includes activities associated with raw material acquisition, product manufacturing, packaging, and transportation, product use, and ultimate disposal.

Life cycle assessment is a tool to structure a comprehensive analysis of environmental impacts across a product's entire life cycle, i.e. from cradle to grave. The ecolodge should apply life cycle thinking to its purchasing and operations decisions.

The audit examines the most significant:

- Inputs (energy, water, raw materials, equipment, and supplies)
- Outputs (products, product use, and non-product outputs)
- Processes (focusing first on those with the largest inputs or outputs).

The choices made can improve profitability, reduce environmental impacts, and increase resilience for the organization and for the rest of the supply chain.

5.5.7 PROFESSIONAL SERVICES AUDITS

Environmental responsibility goes beyond the purchase of goods and extends to those companies that offer services to the ecolodge including:

- Accountants and financial services
- Architectural and engineering services
- Marketing services

These companies should have previously demonstrated environmental concern and action and preferably have a company environmental policy.

5.5.8 SUPPLIER AWARENESS PROGRAM AND AGREEMENTS

The proponent will prepare a Suppliers Compliance Manual that will serve to:

- Enhance communication between the ecolodge and its suppliers
- Make environmental information more accessible to suppliers

- Provide suppliers information on new, environmentally-friendly materials and processes
- Inform suppliers of recent specification changes
- Provide suppliers with pollution prevention options
- Provide suppliers with a means of obtaining support for resolving problems concerning the purchase of materials
- Provide links to sources of possible interest.

5.6 FOOD AND BEVERAGES

5.6.1 FRESH / ORGANIC VEGETABLES, MEAT, FISH, AND POULTRY

Food and beverages should be local, fresh, and organic. It is in the interest of the ecolodge to purchase foods locally. However, the chef may need to assist local suppliers (farmers and fishers) to ensure that the products are available and to guarantee the guests have the highest quality organic products.

5.6.2 RECYCLING FOOD WASTE AS ANIMAL FEED

Unused food waste can be picked up daily to feed the animals that belong to local residents.

5.7 AIR QUALITY AND EMISSIONS

5.7.1 NO SMOKING GUEST ROOMS AND PUBLIC AREAS

Smoking should only be permitted in a designated area not frequented by all guests.

5.7.2 SYNTHETIC FIXTURES AND MATERIALS

No furniture or fixtures should emit Volatile Organic Compounds (VOCs).

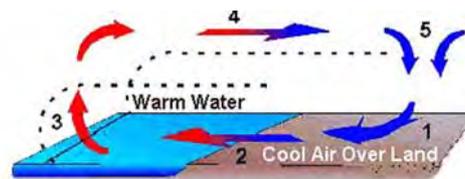
The ecolodge should use only natural materials such as cotton, hemp, and reeds.

5.7.3 FORMALDEHYDE

There should be no pressed wood products anywhere on the property. That includes particle board, fiber board, or plywood used in furniture or finishings.

5.7.4 WINDOWS ORIENTED FOR MAXIMUM VENTILATION

Operable windows will ensure that the guest rooms are fresh and adequately ventilated.



5.7.5 GUEST ROOMS FREE FROM ALLERGENS

De-ionizers should be used, if necessary, to eliminate allergens, spores, molds, and bacteria.

5.7.6 USE OF LIVE PLANTS

Egyptian ecolodge sites may be sandy or rocky and the rooms dusty. Natural indoor plants should be used to trap sand and freshen the air.

5.7.7 CLEANING PARTICULATES

Portable HEPA (high efficiency particulate arrestance) vacuums should be used to filter and remove dust and sand from the guestrooms and common areas.

5.8 HAZARDOUS CHEMICALS

5.8.1 PLASTICS AND STYROFOAM

The ecolodge must demonstrate a firm policy against the use of unnecessary plastics and Styrofoam.

5.8.2 BIODEGRADABLE PESTICIDES, HERICIDES, AND FUNGICIDES

Many common non-biodegradable pesticides kill beneficial insects (as well as birds) and poison the soil. The ecolodge should use only biodegradable pesticides or environmentally-friendly methods for pest and insect control. Such products are formulated from natural plant oils and botanical extracts such as *Azaraachta indica*, *Pinus resinosa*, and *Ricinus communis*.

5.8.3 NON-TOXIC CLEANERS, SOLVENTS, AND PAINTS

Recent consumer demand has led to the development of low-VOC and zero-VOC paints and finishes. Most paint manufacturers now produce one or more non-VOC variety of paint. They are durable, cost-effective, and less harmful to human and environmental health. These environmentally-friendly cleaners are low VOC and some contain known eco-labels. Also purchase only non-chlorine bleach.

5.8.4 TOXIC-FREE FURNITURE

Most resort furniture is manufactured with pressed wood, fiberglass, and plasticizers. It is toxic because these items release VOCs. The ecolodge must demonstrate that all the furniture is non-toxic. Bedding must be made from organic cotton.

5.8.5 TRAINING EMPLOYEES TO USE CHEMICALS

Even though the ecolodge will try to use only non-toxic varieties of cleaners, polishes, and other chemicals, all employees working with these products should receive adequate training in their application and mixtures.

5.8.6 FUEL STORAGE

Fuel storage areas must be constructed to the highest safety standards, including double-skinned tanks and enclosed facility.

5.9 EMPLOYEE EQUITY, PARTICIPATION, AND TRAINING

5.9.1 LOCAL HIRING PRACTICES

Investors must clearly demonstrate a local hiring policy during both the construction and operations phase. By the 3rd year of operation, at least 50% of employees should be from the local area. Additional training may be required to ensure that these quotas are met.

5.9.2 FAIR HIRING PRACTICES

The ecolodge should delegate one employee who understands the local community's dynamics as employment coordinator. That person should ensure that there is no favoritism or social disruption caused by the local hiring policy.

5.9.3 ENVIRONMENTAL MANAGEMENT TRAINING

The investor must ensure that environmental management is a source of innovation rather than another burden in daily procedures. This is achieved through training programs that promote being:

- *Alert* to sources of inefficient use of resources (water, energy)
- *Prepared* to accept changes to improve environmental performance
- *Prepared* to extend responsibility for the environment to all employees that take operational decisions.

Environmental training must develop a commitment to continuous assessment of the structures and activities within the ecolodge, their interaction with the environment, and the competence to respond to the result of this investigation.

5.9.4 EMPLOYEE ENVIRONMENTAL PROGRAM TEAM

Ecolodges frequently create a 'green team' to advance environmental and conservation agendas. The process includes:

- Selecting interested employees to join the environmental 'green team,' ideally headed by a top-level manager to ensure cooperation and action
- Preparing, writing, and distributing the Ecolodge Environmental Policy
- Designating a Champion—a person who will manage the process
- Documenting the Objectives and Targets, including the green team structure, objectives, responsibilities, and timelines.

5.9.5 EMPLOYEE ENVIRONMENTAL MANAGEMENT MANUAL

The investor should commit to preparing an Employee Environmental Management Manual (EEMM) to ensure that environmental management is integrated into daily business operations.

The EEMM, Checklist, and Guidelines should address environmental management categories, including:

- Energy
- Water
- Solid waste
- Effluents and emissions
- Contractors and suppliers
- Site management
- Staff and local community.

5.9.6 PROGRESSIVE WORK POLICIES FOR WAGES, BENEFITS, AND SAFETY

Investors must adopt the principle of fair and equitable wages for all employees as well as providing a safe work environment and ensuring that all employees receive adequate benefits.

5.9.7 FAIR TRADE PURCHASING

The ecolodge has the potential and opportunity to support sustainable development and fair trade practices at a community level, including:

- Creation of new service sector jobs, including positions for women and youth
- Providing educational and service training opportunities
- Offering health care benefits
- Supporting infrastructure development and improvements
- Enhancing opportunities for environmental and cultural heritage protection.

Fair trade products and practices help to guarantee that the local producer receives sufficient compensation for the product or service offered.

The ecolodge fair trade program should:

- Recognize the potential of local workers to educate visitors about the benefits of fair trade and allow artisans and other producers/suppliers the opportunity to share their crafts
- Include visitor tours that encourage a constructive interaction between travelers and the local communities.

5.10 CONTRIBUTION TO CONSERVATION AND COMMUNITY AWARENESS

5.10.1 SHARING PROFITS WITH COMMUNITY AND CONSERVATION PROJECTS

The investor's business plan must indicate that the ecolodge will transfer as much as 8% of the profits to community and conservation projects. These projects should be identified jointly with the local communities and NGOs.

5.10.2 COMMUNITY RELATIONS PLAN AND ACTIVITIES

The long-term relationship with local communities should be outlined in a Community Relations Plan that may change on a year-to-year basis but will establish the parameters for this collaboration. The plan will provide:

- Vision, goals, and objectives
- Roles and responsibilities for ecolodge staff and community members
- Community relations committee
- Methods of collaboration
- Preferred projects
- Monitoring of activities.

5.10.3 CONSERVATION PROJECTS

Conservation Projects should be decided in collaboration with the communities and/or a local environmental NGO. Such projects may include waste management, water conservation, and/or alternative energy production. Contributions may be cash payments, sponsorship, and/or ecolodge staff involvement in the project.

5.10.4 SUPPORT FOR NON-ENVIRONMENTAL COMMUNITY PROJECTS

The scope of community projects may be wider than conservation and environmental initiatives and include literacy training and health related issues, for example.

5.10.5 COMMUNITY LIAISON

One employee from the ecolodge should be identified by management as the Community Liaison Officer with a counterpart officer selected from the community level. The ecolodge officer may require basic training in community relations.

5.10.6 LOCAL HANDCRAFTS AND FOOD

The ecolodge is an excellent venue to display and sell local arts and crafts. An area of the ecolodge should be dedicated for the exhibit and production of handicrafts and local specialty foods.

Local crafts should be used as ecolodge decoration, further promoting guest interest in the products of local people.

5.11 VISITOR EXPERIENCE, IMPACT, AND INTERPRETATION

5.11.1 VISITOR CODE OF CONDUCT

The code should be prepared by ecolodge staff in collaboration with local communities, and may include the following topics:

- Ensuring that tourist activities support conservation
- Supporting preservation of local resources
- Using natural resources based on sustainable principles
- Minimizing consumption, waste, and pollution, including using biodegradable or recyclable products and products with minimal packaging
- Respecting local tribes and cultures
- Respecting historic and scientific sites
- Ensuring that local communities benefit from tourism through:
 - Local purchasing
 - Choosing local tour companies
 - Arranging local excursions for guests
 - Using locally-owned suppliers that employ local people and buy locally-made products and handcrafts
- Choosing tours with trained, professional staff and with a staff–client ratio of 15 clients or fewer per staff member for land-based tours, and 20 passengers or fewer per staff member for cruises.

5.11.2 PRE-TRIP INFORMATION PACKETS

The ecolodge should provide adequate information about regional resources, local cultures, and traditions, national parks, and marine and desert flora and fauna.

5.11.3 INTERPRETATION PROGRAMS AND EDUCATIONAL MATERIALS

The lodge operators must ensure that the guests have access to professional interpretive programs and good local guidebooks during their stay at the ecolodge and in the region.

5.11.4 COMMUNITY TOURS AND GUIDES

The ecolodge can work in collaboration with local tour operators and local villages and adjacent parks/reserves to provide a variety of informative tours.

5.11.5 CONTACT WITH LOCAL RESIDENTS



The investor should develop a series of community- and tour operator-designed programs that are available to guests at the ecolodge that enable guests to meet local crafts people, learn about regional foods and cooking traditions, and visit schools, community projects, and local spots of historical and natural interest.

5.11.6 ACCESS TO CONSERVATION AND COMMUNITY PROJECTS

Tours should be available to the various conservation and community projects that are co-sponsored by the ecolodge in collaboration with the communities and NGOs.

5.11.7 AFFILIATION WITH A REGIONAL OR NATIONAL UNIVERSITY

The investor should establish contact with at least one university or college to establish a research partnership.

Emphasis could be on nature conservation and/or local culture-related study programs that benefit the area, local communities, and guests.

5.11.8 GUEST GUARANTEE PROGRAM

A Guest Guarantee Program will ensure that there has been overall satisfaction with a guest's visit and that environmental expectations have been met. The Program should be monitored by ongoing Visitor Satisfaction Surveys as well as regular interaction between the guest and senior management.

5.12 MONITORING, EVALUATION, AND EMERGENCY RESPONSE AND SECURITY

5.12.1 WATER MANAGEMENT AUDIT AND PLAN

The audit and plan should be prepared to assess the changes and improvements in water savings and water quality monitoring.

5.12.2 ENERGY MANAGEMENT AUDIT AND PLAN

The audit and plan assesses changes and improvements for energy saving targets and monthly energy consumption.

5.12.3 WASTE MANAGEMENT AUDIT AND PLAN

The audit and plan assesses changes and improvements for reducing waste, meeting recycling targets, and meeting reuse targets.

5.12.4 EMPLOYEE AWARENESS AUDIT PLAN

An audit will determine the results of the employee training program, success of the green team, and the ecolodge's impact on community and conservation projects.

5.12.5 VISITOR SATISFACTION AND AWARENESS AUDIT

Visitor satisfaction surveys should be used to determine the degree of satisfaction of the visitor's experience with an emphasis on his/her response to the environmental initiatives of the ecolodge, quality of the environmental education and interpretation programs that were available, and the guest's interest in the community conservation projects.

5.12.6 ENVIRONMENTAL EMERGENCY RESPONSE PLAN AND REPORTING

Emergency situations may include fires, severe weather, hurricanes/typhoons, sandstorms, water disruption/contamination, utility failures, bomb threats, and food-borne outbreaks of illness.

The General Manager, in consultation with the Director of Operations should decide the appropriate response to an emergency situation and initiate action to activate the Environmental Emergency Response Plan in part or in whole.

The plan should be prepared for site emergencies and for those that may take place adjacent to the site.

5.12.7 VISITOR SAFETY, SECURITY, AND EVACUATION PLAN

To create a secure environment and develop the capacity to respond effectively to visitor-related incidents, the ecolodge must establish a network of service providers to take action in an integrated manner. Main partners include the local police, community services, emergency services, traffic department, tourism agencies, and transport providers.

The ecolodge should incorporate a safety and security component to its visitor orientation campaign. The plan should list all potential man-made risks, such as water-related accidents, petty crime, and accidents associated with visitor activities such as desert hiking, mountain biking, and diving.

5.13 GREEN MARKETING, PUBLIC RELATIONS, AND COMMUNICATIONS

5.13.1 TARGET ECO-TOURISTS AND GREEN MARKETS

Ecolodge investors should demonstrate knowledge of the ecotourism markets with a particular emphasis on:

- Birdwatchers
- Amateur photographers
- Scientific tourists
- Ethno-botanists
- Dive and marine enthusiasts
- Sea kayakers.

5.13.2 LOW-IMPACT MARKETING MECHANISMS

The green market prefers an electronic pamphlet and newsletter. Consequently, there is greater use of Internet and websites, digital marketing (electronic brochures and emails), and print material using recycled paper and soy-based ink.

5.13.3 MARKET RESEARCH

The ecolodge management must pay attention to changing attitudes and values of the client base. Managers must undertake constant research on national and international markets to maintain a competitive position.

5.13.4 GUEST SURVEYS

Regular surveys are required to assess guests' interest in a variety of topics directly related to the operations and maintenance of the ecolodge. This may include their:

- Expectations of the level of environmental management
- Attitudes to existing EMS activities
- Preferred conservation, community, and resource enhancement projects
- Preferred method for ongoing contact.

5.13.5 CONTRIBUTION TO SUSTAINABLE REGIONAL TOURISM BRANDING

Ecolodge investors should be environmental and conservation leaders within the travel trade and the region with their investment. They should take an active role in the local tourism associations.

5.13.6 CARBON-NEUTRAL TRAVEL

There are many associations that can offset the emissions of a trip, especially to trade shows or conversely the familiarization (FAM) trips for foreign tour operators.

5.13.7 GREEN ACCOMMODATION CERTIFICATION PROGRAMS

Ecolodge management should seek the ‘Responsible Tourism Award’ or equivalent within 2 years of opening. By year 3 or 4 the ecolodge should be ready to launch a certification process from a recognized organization such as Green Key or an eventual Egyptian eco-certification program.

5.13.8 PROMOTION OF ENVIRONMENTAL INITIATIVES

A large portion of the ecolodge’s website should be dedicated to various environmental, conservation, and community initiatives. It is also important that the site include:

- A list and description of local flora and fauna
- An introduction to local Bedouin culture, customs, and values
- Descriptions of area geology and geomorphology
- Identifications of unique features (desert, coral reefs, coastal zones, and marine species).

The site can also act as a commercial outlet for the online sales of local arts and crafts.

5.13.9 MEDIA DAY

Invite journalists/travel writers to inspect green initiatives, monitoring, and reporting. Specialized Egyptian public relations firms can prepare press releases for distribution to local media, international travel trade journals, and the local population.

Media day should be sponsored in concert with a new ‘green’ initiative and include the participation of local communities.

5.13.10 PARTNER WITH A CARBON-OFFSET ORGANIZATION

Beyond the specific efforts identified in criteria 17.6, there are many activities, such as internal travel, that contributes to global warming. The investor can ensure a greener operation by donating to a carbon emission off set program.

The program could also be offered to guests who wish to make their trip to the ecolodge carbon neutral.

5.14 AREA ECO-ITINERARIES AND DAY TRIPS

The proponent must demonstrate the value of offering attractive and informative tours in the region and local communities.

5.14.1 BRIEFINGS FOR EMPLOYEES AND LODGE GUESTS

All trips will start with a detailed briefing about the various environments and communities to be visited during the tour. The Code of Conduct (see criteria 15.1) should be reviewed with guests before departure.

5.14.2 GUIDE TRAINING PROGRAM

Ongoing training programs should be made available by the ecolodge for all those who have contact with visitors on the itineraries. Programs should be available to tour guides, naturalists, drivers/boat operators, and dive masters. The training programs should consider the following topics:

- Introduction to guiding and visitor services
- Overview of ecotourism and sustainable tourism, market characteristics, and group dynamics
- Risk management and evacuation
- Tour planning and management
- Professionalism and leadership skills
- Photography
- Desert and marine ecology, archaeology, and regional history
- Land and marine mammals, plant identification, and bird life.

5.14.3 WASTE MANAGEMENT

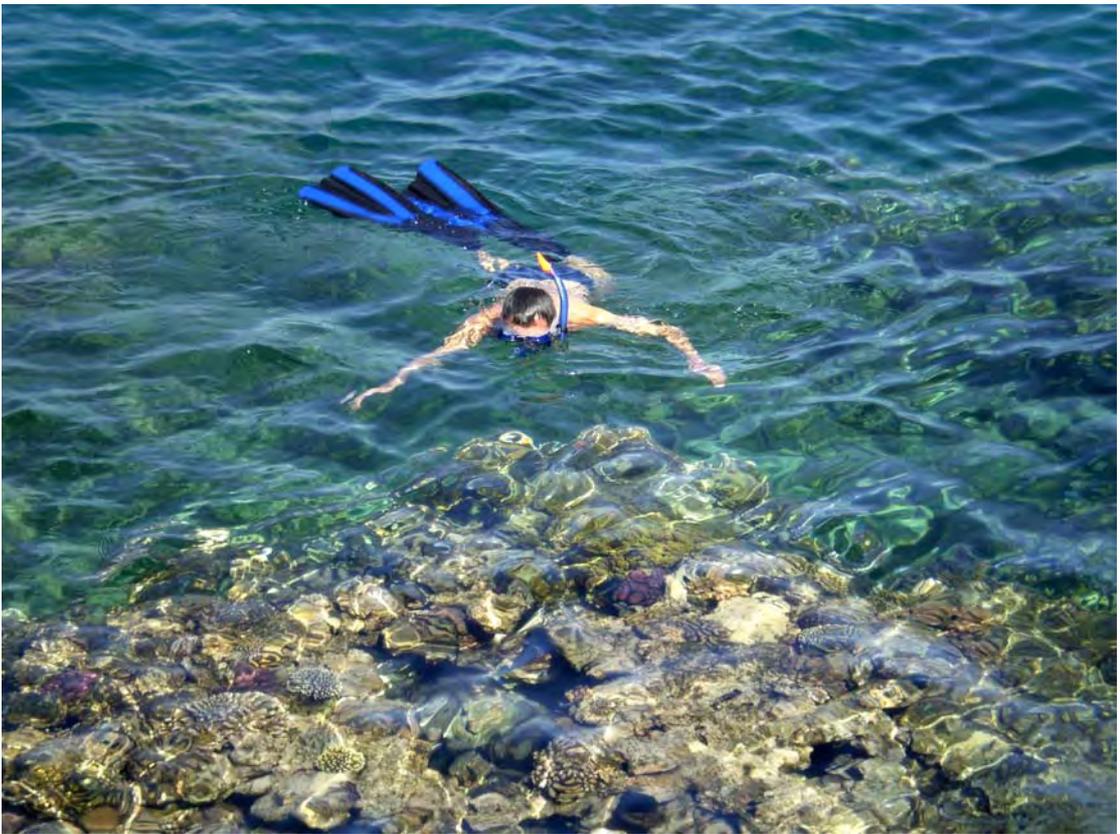
No solid waste should be left at any improper location after a trip. Guides and drivers must provide suitable receptacles for tourists' trash and remains of meals and snacks, and appropriate bathroom stops should be identified and used. Consider providing a portable toilet if either the trip or the age/health of the guests deem it necessary.

5.14.4 IMPACT ON WILDLIFE

The ecolodge should develop guidelines for controlling the visitor's impact on wildlife, including group size, sensitive areas, and distance from wildlife.

PART 6

Conclusions



More than 160 criteria or measures have been presented in this handbook. Some are easy to implement, others require a larger investment. Collectively they ensure that any accommodation can be operated to the highest level of environmental responsibility while also realizing substantial savings in energy and water costs.

There is little doubt about the need for sustainable accommodation. Recent tourist consumer surveys demonstrate a clear preference for environmentally-appropriate facilities while rising fuel and energy costs make it the smart solution for the investor.

This handbook identifies many ways an ecolodge operator (or any manager in the accommodation sector) can position the property as being 'green' and responsible as well as reducing operating costs.

While the handbook has been designed for investors, it can be readily adapted by other components of the tourism sector.

The hope is that, through the distribution of this document, those in management positions will start to adopt the various measures contained here and will contribute to the long-term protection of our tourism environment.

THE AUTHORS

This document was prepared by James MacGregor, a sustainable tourism planning consultant and president of ecoplan:net limited in Morocco, in collaboration with Dr. Assem El-Gazzar, project manager for the LIFE Red Sea project, a USAID initiative managed by Chemonics International, and professor of environmental planning at Cairo University.

Photographs in this handbook are courtesy Dr. Assem El-Gazzar.

ANNEX I ECOLOGDE BUSINESS PLAN SUMMARY

Executive Summary

- Significant facts that describe the project and identify its viability
-

2. Description of the Company

- Experience in the accommodation business
 - Knowledge of the ecotourism sector as well as other markets to be attracted to the property
 - Understanding of environmental responsibility and the triple bottom line
-

3. Description of the project

- Location and site description
 - Project mission, goals and objectives
 - Scope and Scale of the development
-

4. Market Research and Analysis

- Description of the ecotourism, nature-based and heritage markets
 - Trends in the various targeted market segments
 - Current demand (international and Egypt) for the individual market segments
 - Trends in the ecotourism and environmental tourism business, especially in Western Europe Competition Analysis including competitive advantage (pricing, location, etc) and obstacles
-

5. Market Study

- A description of each individual target,
 - An estimate of the market size and visitor projections
 - Overview of marketing initiatives to be used to attract the individual market segments
-

6. Operations Plan

- Operation procedures with an emphasis on the environmentally responsible practices
-

7. Ec lodge Management Structure

- Individual management and staff positions and descriptions
 - Management experiences, particularly in eco-businesses
-

8. Financial Projections

- Projected financial data (for existing businesses)
 - Performa (projected) cash flow analysis, income statement and balance sheet
-

9. Marketing Strategy

- Details of the marketing initiatives by market segment
 - Marketing budget including on-going research initiatives
-

10. Monitoring and Evaluation

- Methods to be used to appraise the financial success, meet visitor projections of the business and the ability to meet environmental targets.
-

Appendices

- Additional information too support the assumption

ANNEX II PREPARING THE ECOLOGE EIA

I. OVERVIEW

The purpose of an Ecolodge EIA is to:

- study and evaluate the effects of the proposed facility on natural and human health, and on the ecolodge site
- compare various development alternatives for the ecolodge and seeks to identify the one which represents the best combination of economic and environmental costs and benefits. Alternatives include location site layout, alternative technology and construction techniques and materials.
- predict changes in environmental quality resulting from the ecolodge
- Weigh environmental effects on a common basis with economic costs and benefits

The EIA is a decision-making tool used to examine the environmental consequences, both beneficial and adverse, of the ecolodge and to ensure that these effects are taken into account in project design. Consequently it should be used as an integral part of the ecolodge planning process.

2. THE ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

Preparing the Ecolodge EIA involves the following steps:

- 2.1 Launch the EIA with the scoping of the EIA terms of reference, selecting EIA consultants and a comprehensive review of existing legislation.
- 2.2. Submit Draft Terms of Reference to the TDA for approval.
- 2.3. Conduct the EIA study by doing the following:
 - 2.3.1 Collect background data and information
 - 2.3.2 prepare a public Involvement program
 - 2.3.3 Identify impacts in terms of magnitude and significance
 - 2.3.4 Undertake a socio-economic analysis of project effects/impact
 - 2.3.5 Recommend mitigation action for each identified impact
 - 2.3.6 Analyze project alternatives; social, economic and environmental
 - 2.3.7 Identify the training requirements of the project
 - 2.3.8 Develop of a monitoring plan
- 2.4 Submit EIA to TDA for final approval

3. THE ECOLOGE EIA REPORT

- i) Covering letter
- ii) Table of Contents
- iii) Executive Summary

3.1 Overview of the EIA

The report begins with a brief introduction explaining the need for and context of the ecolodge project and introduces the reader to the report structure and the process that was used to prepare the EIA.

3.2 Policy, Legal and Administrative Framework

- Policies and legal basis within which the ecolodge may be built
- Regulations and standards applicable to the project

3.3 Description of the Environment

- A description is a record of conditions prior to ecolodge construction of the ecolodge and serves as a benchmark against which to measure environmental changes and to assess impacts
- Description includes but not limited to the following:
 - a) Landscape Conditions
 - b) Geological Conditions (e.g. land formations (valleys, wadis)
 - c) Soil Conditions (e.g. depth, suitability for sewage disposal)
 - d) Archaeological values and features
 - e) Biotic resources and conditions
 - **Plants**
General type, dominant species, wildlife habitats, endangered species, specimen of scientific interest
 - **Wildlife (marine and terrestrial)**
General types/dominant species (mammal, fish, reptiles, etc.), migratory species, introduced and endangered species, commercially valued species
 - **Watershed or Marshland Conditions**
Water quality (ground water and surface water), watershed structure (on-site and surrounding area), location of wells, springs and wetlands
 - **Climatic Conditions**
Local and regional climatic conditions, noise levels, rainfall (average), temperature (average highs and lows) and prevailing winds (direction and intensity)

3.4 Description of the Proposed Project

- Identify critical development and operations activities which will be involved in the ecolodge including construction, start-up and visitor services

3.5 Significant Environmental Impacts

- an exhaustive list of all impacts including minor, short term, moderate, direct and indirect.
- manageable, significant impacts are selected, based on magnitude, extent and special sensitivity, for further study.

3.6 Socio-economic Analysis of Ecolodge Impacts

- impacts of the ecolodge on the socio-economic environment is analyzed.
- Includes the main economic activities e.g. tourism salaries and revenues, handcraft production
- Impact on nearby communities, employment levels and training opportunities
- Impacts should be categorized in terms of positive and negative

3.7 Analysis of Alternatives

- Each alternative is evaluated with respect for its potential environmental impact and capital and operating costs
- Environmental losses and gains are combined with economic costs and benefits to accurately describe each alternative, including an analysis of the "no action" alternative.

3.8 Mitigation Action/Mitigation Management Plan

- Adverse environmental impact may not be eliminated so mitigating measures will be identified to reduce the intensity.
- Measures, to reduce the adverse impacts, will be documented and cost assessed for each stage of the project should be

3.9 Environmental Management and Training Plan

- Measures indicating how the environment will be managed and documented during implementation and operational phases will be described.
- A training program for ecolodge employees will be presented.
- identify institutional needs for implementing the recommendations of the EIA are identified.

3.10 Monitoring Program

- Environmental monitoring program should described costs associated with the monitoring activities
- Monitoring program should state the:
 - institutional arrangements for carrying out the work
 - parameters to be monitored
 - methods to be employed
 - standards or guidelines to be used
 - evaluation of the results
 - schedule and duration of monitoring
 - initiation of action necessary to limit adverse impacts
 - disclosed by monitoring
 - format and frequency of reporting

3.11 Public/Community Involvement and Results

- Local citizens and the community associated with the ecolodge should be involved in the EIA
- Participation includes: direct involvement of the affected public and the inclusion of local environmental knowledge
- The EIA maybe the subject of a public presentation by the proponent.

3.12 EIA Review

- The draft EIA report should be submitted to the TDA for review.
- Government agencies other than the TDA maybe required to participate in the review.



**Livelihood and Income from the Environment (LIFE)
Sustainable Economic Development in the Red Sea Project**

in partnership with

**The Egyptian Environmental Affairs Agency (EEAA),
Ministry of State for the Environment**

**The Tourism Development Authority (TDA),
Ministry of Tourism**

and

The Red Sea Governorate (RSG)