

Ecolodge Guidelines

Introduction

Conservancy partners and state programs are frequently considering, or are being asked to provide support for, the development of guest facilities either as compatible development business ventures aimed at generating income for conservation management, reducing threats by moving local labor into sustainable activities, providing education and training opportunities or a combination of all three.

It is important to ensure that ecotourism facilities be developed within the framework of an ecotourism or public use plan and a Conservation Area Plan for an area. It is also important to differentiate the ecolodge from nature-based tourism facilities which may not contribute to conservation. An ecolodge refers to a lodge that meets the following minimal criteria: (i) has minimal impact on the natural and cultural surroundings, (ii) fits into the physical and cultural environments through attention to design and landscaping as well as building materials, (iii) utilizes “green” technologies that provide sustainable means of water acquisition, safe disposal of solid waste and sewage and use of renewable energy sources, (iv) involves local communities in the ecolodge development and seeks to bring about economic and educational benefits to communities, and (v) integrates environmental and cultural education into the visitor’s experience. In other words, the eco-lodge refers to small-scale tourism development that through adequate planning (as recommended in this set of guidelines) minimizes impacts to the environment and maximizes benefits to local communities and conservation.

In an effort to ensure that ecotourism facilities contribute to the fulfillment of conservation goals and represent a distinct product from conventional nature tourism infrastructure, we have worked with landscape architects and ecotourism planners to establish Ecolodge Guidelines. These are designed to orient site managers and ecotourism planners on what is required of ecotourism infrastructure in and around protected areas.

1. Selection of Site and Site Planning

- It is recommended that an Environmental and Social Impact Assessment (EIA and SIA) be carried out by a *multi-disciplinary* team when a tentative site has been. This facilitates the integration of environmental considerations put forward in the assessment into the actual plans for siting and design. The EIA not only plays a critical role in assuring that the development is aligned to local environmental and social conditions, but may also serve to provide baseline information on local environmental and social conditions in cases where this information does not exist.
- It is important to involve local stakeholders in planning process. They should be provided the opportunity to review and provide feedback on the results of the EIA and SIA.

- ❑ One of the best ways to select an appropriate location for an ecolodge is through the analysis process of the EIA.
- ❑ Through master site planning, developers can minimize the negative impacts to the natural and cultural environments. Two key elements that should be considered as part of the master site planning process are zoning and access to site.
 - *Zoning.* Zoning facilitates the application of different management objectives to different areas of the site. These different use levels, e.g.: strictly protected zone, restricted tourism use zone, moderate tourism use zone, etc., help to proactively minimize the negative impacts on the natural and cultural environments.
 - *Access to Site.* Minimize road construction. If a road has to be built, maintain the canopy cover unbroken to avoid the creation of barriers to the movements of birds and animals. If a road is needed for supplying the lodge, consider electric or hybrid powered vehicles to transport supplies from the main road to reduce noise, water and air pollution.

2. Facility Design

Facility Design for ecolodges should be based on an understanding of the ecolodge's context, i.e. the relationship between local cultures and the land. Developers of ecolodges should carry out research on traditional land use and site design, and incorporate sustainable principles and practices into the design of the facility. The architectural design of the ecolodge should also be based on the results of market analysis of your target clientele. It is important to have information on your targeted clientele's purchasing power, expectations and recreational interests.

2.1 Biophysical and Cultural Impacts

- ❑ Nesting, feeding and roosting sites of threatened, endangered or other focal species should not be negatively impacted.
- ❑ Archeological and other sites of cultural importance shall be respected and not negatively impacted.

2.2 Architectural Design and Construction Issues

- ❑ The site shall be selected to enable the infrastructure to integrate harmoniously with the natural and cultural environments, rather than impose itself upon these.
- ❑ Natural contours of the landscape will be followed.
- ❑ High structures should be avoided. Buildings below tree/horizon line or no/little impact on beachfront/river front when viewed from the sea/river.
- ❑ Color used on exteriors should blend, not contrast with the colors of the natural environment.
- ❑ Use of local idioms and styles in the architecture with minimum visual impact: simple, elegant approach.
- ❑ Construction processes should be labor intensive and avoid the use of heavy machinery.
- ❑ Construction process may combine traditional and modern technologies and materials.
- ❑ Use of natural, sustainably harvested material will be maximized and will predominate.

- ❑ Modern recycled glass, wood and plastic materials can be used if sustainably harvested timber is in short supply.
- ❑ Concrete and steel should be avoided.
- ❑ The process of selection of architectural consultants and contractors should be weighed heavily on their technical and practical experience in ecolodge development.

2.3. Trails

- ❑ Trails should be designed as a vehicle for environmental and cultural interpretation. Attractions (views, wildlife observation, beauty, etc) and sensitivity (least impact) should be the primary determining factors in placement.
- ❑ Trails should also be offered for differing levels of physical ability, wherever possible.
- ❑ Trails should, if possible, form a closed loop bringing the visitors back to the starting point. This prevents the visitors from having to retrace their steps, thus improving their experience.
- ❑ Trails should incorporate erosion controls.
- ❑ Trails should be clearly delimited, to discourage visitors from leaving them.

2.4 Landscaping

- ❑ Native species for land generation (not "landscaping"). Avoid the use of exotic plant species.
- ❑ Minimize or better, eliminate the use of lawns.
- ❑ Buildings (including administration and staff quarters) should be as much as possible invisible from the air and also on ground arrival.
- ❑ The design should maximize the potential for passive ventilation and lighting to avoid the need for air conditioning and excessive artificial lighting.

2.5 Energy Systems

- ❑ Use low energy consumption technologies for lighting (e.g. compact fluorescent lamps, smart light bulbs with time switches), water heating and cooking.
- ❑ Renewable sources of energy should be the goal for all normal energy needs. Diesel generators or similar should be considered as back-ups only.
- ❑ Double skinned generator houses, state of the art silencers will be used for generators.
- ❑ Consider "solar windows" and/or biogas for water heating.
- ❑ Use photovoltaics for lighting.
- ❑ Use biogas for refrigeration and cooking.

2.6 Waste Management Systems

- ❑ Incorporate the three R's in site and system design: Reduce, Re-use, and Recycle. (Ideally, nothing brought to an ecolodge is anything but durable, biodegradable or recyclable).

2.6.1 Solid Waste

- ❑ Convert biodegradable waste to compost that can be used on site or made available to local food producers.
- ❑ Non-biodegradable wastes should be separated on site and transported to a properly managed site for adequate disposal. This may have the additional benefits of creating

additional employment, and could provide environmental education and improve local community infrastructure.

- ❑ Use of biodegradable detergents, fats, guest soaps and shampoos etc.
- ❑ Limit the use of disposable plastic containers, utensils and wrappings and advise guests in advance of ecolodge policy.

2.6.2 Sewage

- ❑ Evaluate the relative impacts and merits of dry toilets, anaerobic bioseptic treatment (and biogas production), aerobic bioseptic treatment and constructed wetlands.
- ❑ Wastewater should be treated to a level acceptable for agriculture and released into an irrigation system for a small garden behind the facility. This accomplishes three goals at once: using wastewater instead of simply releasing it into the watershed, reducing the consumption of local food resources and ensuring the extra availability of fresh, organic produce.

2.6.3 Water Supply

- ❑ Close attention to issues of water, its supply and sustainability, impact on local communities, sensible economies (e.g. baths versus showers), ability to recycle for laundry or gardens.

3. Integration of Environmental Strategies in Operational Systems

Implementing specific operational guidelines and standards will ensure that the objectives of all operational areas are aligned, and working to in tandem to minimize negative cultural and environmental impacts, while engaging personnel, guests and neighboring communities to aspire to a higher environmental ethic.

3.1 Operational Measures

- ❑ Minimize use of imported and packaged foods.
- ❑ Avoid use of pre prepared pre cooked foods to minimize refrigeration and heating needs, maximize quality of delivered product, reduce risk of food poisoning.
- ❑ All refrigeration to be c.f.c.-free. Avoid use of aerosols (housekeeping sprays etc) use more economic and eco-friendly "hand-pumped" materials, which must be biodegradable.
- ❑ All vehicles' used oils to be collected, moved out and recycled.
- ❑ All petrol and oil tanks to be secured in their own reservoir to avoid leakage of product into the surrounding environment.
- ❑ Minimize light pollution. Minimize artificial lighting in outdoor areas to avoid disturbance to wildlife. Keep the stars visible from the lodge at night.

3.2 Capacity Building of Personnel

- ❑ Hire, train and educate local staff about the environment, conservation, pollution, the expectations of foreign visitors, etc.

3.3 Linking Visitation with Environmental and Cultural Education

- ❑ Provide abundant learning opportunities for guests, including guided visits to surrounding terrestrial and aquatic environments and to local communities, well stocked library of guides to natural history and culture, evening lectures and events.
- ❑ Likewise, have information available to educate travelers on local norms and mores so they don't become an offensive presence in the community. This will increase guests' understanding of the natural and cultural environments and their role in minimizing negative impacts from recreational activities and interaction with local people.

3.4 Community Benefits and Relations

- ❑ Establish relationships with the neighbors to the lodge and identify an appropriate level of interaction with them.
- ❑ Learn from the community, their needs and problems. Also, they may know more about ecotourism potentials and pitfalls in their area than do outsiders.
- ❑ Find out what the community thinks of the project, how they define it in their terms and how they think it meets their needs.
- ❑ Avoid creating unrealistic expectations. Be open and honest about the potentials and pitfalls of the project.
- ❑ Avoid competing with the community, both in terms of natural resources and market share of tourism in the area.
- ❑ Generate and/or support opportunities for economic development and improvements in the quality of life of the community including (and perhaps especially) those that aren't directly/necessarily related to the project
- ❑ Promote opportunities for local people and other people from the host country to have access to the project by offering organized programs, discounts and incentives.
- ❑ Get feedback from the community about which cultural symbols and traditions (architecture, art, decoration, ceremonies, clothing, icons, food, music, etc.) they would like to share with visitors. Use these only with consent and don't abuse them for romantic or marketing purposes. These elements are in many cases the identity of their culture. Outsiders must use them sparingly and with respect.
- ❑ Identify and enfranchise the real leaders of the community. These individuals may not be readily apparent. They may be, for instance, elders who hold no official office but nevertheless are looked to for consent in various decision-making processes. Gaining the trust and support of these individuals will help ensure greater and more timely community support for the project.
- ❑ Identify a strategy for coordinating with neighboring communities, including programs of environmental education, training and infrastructure development.
- ❑ Ensure that guides (both local and university educated nationals) are trained to the highest standards to maximize the guest experience and local employment opportunities.
- ❑ Maximize employment opportunities for local people. Be seen as a model employer both with regard to staff wages, accommodation facilities, training and opportunities for promotion.
- ❑ Maximize use of local fresh food ingredients, subject to hygiene requirements and sustainability of growing/harvesting standards.

4. Monitoring and Evaluation of Impacts

The monitoring impacts provides ecolodge operators with information on the impacts that the ecolodge has on the natural and social environments over time. When the evaluation of impacts involves incorporating findings into management decisions, negative impacts can be continuously minimized. Although the way to measure sustainability of an ecolodge is to monitor all aspects of operations, our guidelines and recommendations are focused on monitoring the ecolodge's environmental performance as well as condition of its natural and social environments.

- ❑ Set overall goals and indicators for environmental performance and the management of natural and social environments.
- ❑ Generate baseline data on environmental and social indicators.
- ❑ Implementation of monitoring system such as Limits of Acceptable Change.
- ❑ Integration of monitoring results into operations.

REFERENCES...

Baez, A., and Mehta, H. (eds.)(in press), *International Ecolodge Guidelines*. The International Ecotourism Society

Hawkins, Epler Wood & Bittman, (1995) *The Ecolodge Sourcebook for Planners and Developers*. The Ecotourism Society

Sweeting, J. et al. (1999) *The Green Host Effect: An Integrated Approach to Sustainable Tourism and Resort Development*. Conservation International

ANNEX

Extract from: Environmental and Social Guidelines for Investment,
THE ECOENTERPRISES FUND, August 1999

General Criteria

ENVIRONMENT

- All aspects of a project shall respect all applicable national and local laws, administrative requirements, and international treaties and agreements to which the country is a signatory.
- Management of existing resources will employ low-impact or minimal disturbance methods, that maintain biodiversity, husband organic and soil resources, limit the use of chemicals, and support buffer areas of natural habitat. Projects to improve the productivity of degraded resources will include restoration of native biodiversity and soil conditions whenever possible.
- Where activities take place in proximity to natural habitats, they will ease pressure on critical, threatened biodiversity resources (e.g., alternative livelihood/employment, extension of corridors and/or maintenance of remnants, environmentally sound intensification of agricultural or wood production to prevent expansion into protected areas).
- Projects will aim to create new market value from extractive, derived or in-situ uses of intact ecosystems, such as sustainable or low-impact harvesting of lesser known wood species, new plant- or animal-based chemicals, and non-timber forestry products as well as hunting, fishing, wildlife management, ecotourism, and carbon-offsets.
- Provisions will be made to protect endangered and rare species as well as other affected animals and their habitats.
- New or existing roads, paths or other means of entry will be carefully assessed to determine potential impacts on the ecosystem and local communities resulting from increased access. All roads and trails will conform to sound environmental standards and result in minimal environmental damage and social impact.
- Appropriate ecological field assessments will be undertaken. These assessments will identify sites to be avoided as well as those to be developed. Research will also include information on the status of natural resources and demand pressures. Local communities will participate in these assessments.
- Chemicals restricted or banned in the U.S., Europe or the host country cannot be used. Chemicals will be avoided in favor of integrated pest management or other management techniques (e.g., physical barriers, repellents, and good sanitation). If chemicals are used, proper equipment and training (for proper handling, storage and disposal) shall be provided to minimize health and environmental risks.
- Appropriate environmental monitoring and evaluation methods must be designed for each project, with standardized indicators for comparative purposes, and applied throughout the life of the investment.

SOCIAL

Exclusions

- Loss or damage affecting the legal or customary rights, property, resources, or livelihoods of local peoples must be avoided.
- Negative impacts on local cultures must be minimized. Avoid contributing to the decline of local values.
- The investment must not threaten or diminish, either directly or indirectly, the resources or tenure rights of indigenous peoples.
- Involuntary displacement of local populations must be avoided.

Must Have's

- The diversity of resource stakeholders within the project's scope – including but not limited to various community groups, non-resident users, advocacy interests, and individuals with business or political interests – must be considered for project feasibility and overall impact.
- Long-term tenure and use rights to the land and/or resources shall be clearly defined, documented and legally established. Local communities with legal or customary tenure or use rights shall maintain control, to the extent necessary to protect their rights or resources, over operations unless they delegate control with free and informed consent to other agencies. Appropriate mechanisms will be established and used to resolve disputes over tenure claims.
- The legal and customary rights of indigenous peoples to own, use, and manage their lands, territories and resources will be recognized and respected. Sites of special cultural, ecological, economic or religious significance to indigenous peoples will be clearly identified in cooperation with such peoples, and recognized and protected by the investors.
- Local control over and sustainable access to the resource will be promoted.
- The local community, and in particular local resource users, will if desired, support and actively participate in the project's development, planning and operation. This can be achieved by extensively involving local communities at the planning stages, then providing good training and using local people for construction, management, staffing, and monitoring of the investment. More specific training when appropriate will be provided if required for project implementation (e.g., cross cultural training for ecotourism projects and sanitation practices for post-harvest processing of non-timber forest products).
- Indigenous and traditional peoples will be compensated for the application of their traditional knowledge regarding the use of native species and management or cultural practices. Intellectual property rights must be recognized and respected. Appropriate compensation will be negotiated with legal counsel chosen by the communities.
- Appropriate social assessments will be undertaken both prior to and during the life of the project, with the full participation of local communities, and/or their representative associations or non-profit organizations, as well as non-local resource users and controllers. Not all community interests may be represented by the partner non-profit organization directly involved in the enterprise, and it must be determined that the project is reconcilable with aggregate local needs and interests. Assessments will provide

information on how the area is currently used and by whom, and identify how different groups within the community will gain or lose from the investment. In particular, the following questions will be asked to identify the potential impact of the investment on the community.

- *How are individuals within each community affected/involved?* Analysis will identify the number of inhabitants, ethnic and gender composition, primary sources of income (cash or subsistence), socio-political decision-making structures (both formal and informal leadership and power relations).
- *Who controls/coordinates at the community level?* Who from the community will be involved directly in the project? How and with what frequency will these representatives be chosen? How will the decisions regarding the project be integrated into local decision-making processes (in terms of regular project review, roles and responsibilities of different decision-makers)? How are "vulnerable" groups (e.g., women) involved?
- *What are the benefits the project will bring to the community?* Benefits such as generation of employment, income, improved living standards (health, education, nutrition), and improved environmental conditions will all be analyzed.
- *What are the anticipated distribution of benefits and costs?* Who will benefit (or lose) from the investment? by how much? What is the distribution of benefits (and costs) by gender (i.e., women, men, children) or other sectors of the community (e.g., educational sector, forestry sector)? Will the project increase the gap between rich and poor members of the community? Would changes in project design or operation help bridge existing economic differences among villagers? Will there be any increased conflicts due to loss of traditional income sources or beneficial uses in a segment(s) of the local communities?
- *What are the projected positive and negative impacts on the community as a whole?* What are the anticipated changes in resource use patterns, cultural traditions, educational status, socioeconomic aspects, political aspects (e.g., decision-making structures), organizational aspects (e.g., helping community become more self-sufficient) or other secondary impacts (e.g., attraction of new economic opportunities as a result of this project)? If resources increase in value due to the project, are conflicts likely? What about immigration due to economic opportunities or changes in demographics if increased income permits out migration to urban areas, leading to shortage of labor?
- *What likely effects will the change in land use patterns caused by the investment have on nutrition and health?* For example, even though income may increase, malnutrition may become more prevalent as local markets contain few fruits and vegetables as all efforts stress industrial or export crops. As cash income increases, increased consumption of processed food and/or reduced cultivation of annual or subsistence crops – impact on household expenditures and nutrition. Will there be any increase in or introduction of diseases or malnutrition that requires the intervention of public health officials?
- *What changes are desirable?* The community will determine what types and levels of changes are desirable or acceptable and which ones are not. Regular monitoring and evaluation will provide structured opportunities for local stakeholders and community members to give opinions on and negotiate changes throughout the life of the project.

Ecotourism

Defined as a type of nature tourism (which includes all outdoor, nature-oriented tourism), ecotourism more specifically links travel whether leisure, adventure or educational to the conservation of the destination's natural resources. As defined by IUCN, ecotourism is *“environmentally responsible travel and visitation to natural areas, in order to enjoy and appreciate nature (and any accompanying cultural features, both past and present) that promote conservation, have a low visitor impact and provide for beneficially active socio-economic involvement of local peoples.”*

Many types of nature-connected tourism are not ecotourism. Ecotourism projects are expected to financially assist in preserving or maintaining the land or water resource upon which the business is based and include ecologically sensitive architectural and land use designs as part of the project. Tourism can also have significant social impacts, and ecotourism businesses are structured to benefit local communities.

As of yet, there is no certification standards for ecotourism, although best practices have been documented. The Ecotourism Society in the U.S. and the United Nations Environment Program have published widely accepted industry guidelines to assist project principals to prevent potential impacts, such as deforestation from firewood use or off-trail activities, changes in animal behavior, soil erosion resulting from excessive use, and pollution. With proper planning and supervision, ecotourism can help protect ecosystems and preserve biodiversity. It can also empower local communities to recognize the ecosystem as an intact rather than exploited resource, promote environmental responsibility, and increase environmental awareness.

Exclusions:

- Intensive clearance of vegetation is unacceptable. Cutting down trees for buildings, roads and pathways will be minimized, with use made of areas cleared by natural tree falls when possible.
- All products from threatened species and other resources will be avoided. Exotic species trapped in wild, especially threatened or endangered species, will not be kept on the property.

Must Have's:

- Ecological field assessments must be undertaken. These assessments will identify sites to be avoided as well as those to be developed. Research will also include information on tourism demand, status of resource base and visitor impact.
- Appropriate social assessments must be undertaken. These assessments will provide information on how the local community uses the area and identify how different groups within the community will gain or lose from the investment. For instance, the increase in employment opportunities could stimulate migration, influx of visitors could impact the community, road improvements could threaten the ecology of the area.

- The local community must support and if desired, actively participate in the facility's development and operation. This can be achieved by extensively involving local communities at the planning stages, then providing good training and employing local people for construction, staffing, and monitoring of the facility.

Facility Location and Lay-out

- Facilities must be located in areas that allow for minimum interference with the surrounding ecosystem.
- Facilities (including buildings, roads and trails) will be laid-out in a manner that accounts for future forest growth and wildlife habitats and travel patterns.
- Low-impact site development techniques will be used that take into account effects on air, water and soil (e.g., use boardwalks instead of paved trails). Building and trail placements must have proper erosion control measures.
- Access of cars and other vehicles to the area will be monitored and limited.

Infrastructure Design and Components:

- Infrastructure will be designed and constructed to cause only the smallest impact. It will also allow for future growth (in demand at the site) in order to minimize expansion-related waste and demolition.
- Construction specifications will reflect environmental concerns regarding use of wood products and other flammable materials.
- Architecture will reflect harmony with nature. The natural environment will not be compromised for dramatic considerations (e.g., clearing for good views).

Energy Systems

- Energy consumption will be minimized and derived from renewable sources (e.g., solar, wind) whenever possible. Where used, hydroelectric power generation will cause minimal disruption to the environment.
- Construction will maximize natural ventilation and lighting. Air conditioning will be minimized or eliminated in favor of ceiling fans or other design features.
- Power lines will be situated so they minimize disruption of soil and vegetation.

Waste Management Systems

- Overall facility plans will emphasize minimal waste generation. Recycling will be implemented where possible.
- Waste management systems must provide for environmentally sound removal of waste. Appropriate technologies will be used for treating organic wastes, such as composting, septic tanks, biogas tanks, or small wetland remediation areas. The facility will explore methods to recycle and treat wastewater and use rainwater.

- Trash storage will be secure from animals and insects.

Operational/Implementation Systems

- Adequate safeguards and mechanisms to enforce environmental standards will exist. For example, there will be an adequate number of competent management and staff to oversee the guests and facility.¹
- Visitors will be limited, and the design and management of the facility will not burden the local ecosystem. Monitoring systems to ensure that these limits are not exceeded and reflect current conditions will also be in place.
- Traveler impacts on local cultures will be minimized. The community will define visitor numbers and frequency in community-controlled or community-owned areas. Inhabitants of the area will have the opportunity and right to define certain tourist-community interactions (e.g., visitation, photography).
- The community may require visitors to hire local guides from the cadre of properly trained and accredited pool of guides.

Strongly Encouraged:

- Insect, reptile, and rodent control will be considered in the design. Emphasis will be on minimizing opportunities for intrusion.
- Potential causes of disruptive sounds or smells will be considered in the design and minimized.
- Priority will be given to the utilization of local construction techniques and materials provided these are environmentally sound and no endangered species are utilized. Infrastructure will also make use of local management, labor, craftspeople and artists subject to feasibility and impact assessments.
- When certification exists, the project will either have certification from an accredited agency, or be in the process of gaining that certification.
- Frequent communication between tourism managers and local communities will promote shared understanding of the culture and various interests of the local inhabitants.
- Travelers will be educated prior to and in conjunction with encounters with local cultures and native animals and plants. This will include insights into the natural history and culture of the region, local values and concerns, and the need for conservation.

¹ Visitors will be offered abundant instruction/education about plant and animal species that may be encountered. This will help them to conduct themselves in a safe and appropriate manner. Trailhead signs and postings will establish appropriate rules of conduct for visitors and staff. In some cases, trained guides will always accompany visitors.