

Guidelines for Developing Ecolodges in MYANMAR

ICIMOD

FOR MOUNTAINS AND PEOPLE



myanmar
TOURISM FEDERATION



About ICIMOD

The International Centre for Integrated Mountain Development, ICIMOD, is a regional knowledge development and learning centre serving the eight regional member countries of the Hindu Kush Himalaya – Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan – and based in Kathmandu, Nepal. Globalisation and climate change have an increasing influence on the stability of fragile mountain ecosystems and the livelihoods of mountain people. ICIMOD aims to assist mountain people to understand these changes, adapt to them, and make the most of new opportunities, while addressing upstream-downstream issues. We support regional transboundary programmes through partnership with regional partner institutions, facilitate the exchange of experience, and serve as a regional knowledge hub. We strengthen networking among regional and global centres of excellence. Overall, we are working to develop an economically and environmentally sound mountain ecosystem to improve the living standards of mountain populations and to sustain vital ecosystem services for the billions of people living downstream – now, and for the future.



About MONREC

Ministry of Natural Resources and Environmental Conservation (MONREC), Myanmar, aims to conserve and protect natural resources of the country, to extract and utilize the country's natural resources in a sustainable manner so that they can be inherited, and transferred from one generation to another, and to create harmony of environmental conservation and implementation of development projects in a balanced manner.

MONREC is comprised of two sectors: Mining and Environment & Forestry. The latter division oversees six separate institutions devoted to various natural resource concerns of the country.

- **Forest Department** (FD) is responsible for protection and conservation of biodiversity and sustainable management of the forest resources of the country,
- **Myanmar Timber Enterprise** (MTE) is responsible for timber harvesting, milling, and downstream processing and marketing of forest products.
- **Dry Zone Greening Department** (DZGD) is responsible for reforestation of degraded forest lands, protection and conservation of remaining natural forests, and restoration of the environment in the dry zones of the Central Myanmar.
- **Environmental Conservation Department** (ECD) is responsible for the effective implementation of environmental conservation and management.
- **Survey Department** (SD) is responsible for producing topographical maps and project maps for the country.
- **The University of Forestry** is responsible for providing students with academic principles and application methods in forest science and for nurturing competent forestry professionals today and in the future.

The long-term goals of MONREC include three primary forestry sector reforms:

1. To stop timber harvesting in 2016-2017 across the country;
2. To stop timber harvesting in Bago Yoma Region (area of 1.5 million ha) for 10 years starting in 2016-17; and
3. To prevent the export of the confiscated timber, and prioritize biodiversity conservation throughout the country.

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Guidelines for Developing Ecolodges in Myanmar

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Myanmar Ecotourism Policy and Management Strategy for Tourism in Protected Areas
2015–2025

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1. Background

In 2015, a comprehensive consultation exercise was carried out by the Myanmar Ministry of Natural Resources and Environmental Conservation (then the Ministry of Environmental Conservation and Forestry) and the Ministry of Hotels and Tourism. This was supported by the International Centre for Integrated Mountain Development (ICIMOD). The 'Myanmar Ecotourism Policy and Strategy for Tourism in Protected Areas' was developed as a result of these consultations. This provided a clear vision of how ecotourism should be defined in Myanmar and showed how tourism could benefit conservation in protected areas, as well as the wider rural environment. 'Ecolodge guidelines' were also developed as part of the strategy to assist the construction of ecolodges in protected areas as well as other natural areas throughout Myanmar.

The key parts of the two documents are summarised below and are intended to be used as 'factsheet guides' providing guidance for developing accommodation facilities that are environmentally sustainable and as a general resource for future reference. These Guidelines should be used in the planning, design, environmental impact assessment and construction of an ecolodge in Protected Areas and can also be used to guide ecolodge development in other natural areas. They do not replace existing laws governing hotels or guesthouses. *Please ensure that your property is licenced under Myanmar Law!*



2. Definition of Ecotourism in Myanmar

Ecotourism in Myanmar refers to tourism related activities in and around its protected areas, as well as other natural areas in Myanmar. It focuses on the methods of delivering three key elements:

- Biodiversity and ecosystem conservation;
- Education and learning for hosts and visitors on matters of protection and conservation of natural and cultural assets of these areas.
- Economic and social benefits to local communities that a) reduce demand for natural assets and b) work together in protected area management.



3. Guiding Principles of Ecotourism in Myanmar

Ten guiding principles should be adopted by ecolodges when planning, designing and implementing ecotourism activities:

1. Align with protected area objectives and management plans to ensure resource conservation as a priority;
2. Support and respect zoning systems that restrict visitor use of core areas to conserve key species and habitats;
3. Increase awareness among all stakeholders of the value and benefits of protected area networks, especially with regard to climate change mitigation;
4. Form destination management organizations to embed ecotourism plans in district and state/region planning, and develop synergies with the UN Millennium Development Goals and the post-2015 Development Agenda;
5. Leverage cultural and spiritual assets and values in interpretation plans to engender respect and responsible use;
6. Promote responsible business models that engage local people, reduce the over harvesting of natural assets, and deliver conservation benefits;
7. Provide income sources to sustain and protect the country's protected area network;
8. Use baseline data and monitoring programmes to assess and minimize negative impacts on nature, culture, and host communities;
9. Attract world-class investors, promote innovative architecture and infrastructure that harmonize with nature and cultural landscapes, and minimize energy consumption;
10. Provide models of good practices to help protect natural and cultural assets outside of protected areas;



4. Ecolodge Guidelines

The aim of these guidelines is to promote sustainable tourism in and around Myanmar's protected areas, which are unique and diverse. A true ecolodge will have a low impact on its surrounding environment, as well as offer best practice in its design and operation. It will involve and educate the local community and guests, as well as provide a meaningful experience to visitors. These Guidelines should be used in the planning, design, environmental impact assessment and construction of an eco-lodge. All accommodation in protected areas is required under Article 25 of the Myanmar EIA Procedure to undertake an Environmental Impact Assessment. Under Article 26, the Ministry may determine projects outside Protected Areas should also undertake an EIA. The Ecolodge Permit granted by NWCD will be conditional on satisfactory completion and approval of an EIA which should incorporate a Water Conservation Plan, Waste Management plan, and Energy Conservation Measures and Monitoring Plan (see below).



5. What is an Ecolodge?

Key features of an ecolodge business are: conservation, education, tourist responsibility and active community participation. Ecolodges may aim for high end or budget markets and may be small (less than 10 rooms) or large (up to 70 rooms). They will all have the same characteristics defined by the Nature Conservancy:

- An ecolodge has minimal impact on its natural and cultural surroundings.
- Design, landscaping and building materials will be sympathetic to the physical and cultural environment.
- 'Green' technologies that provide sustainable water acquisition, safe disposal of solid waste and sewage and renewable energies are used.
- Local communities are involved in the development and operation of the ecolodge with the intention of bringing economic and educational benefits to these communities.
- Integration of cultural and environmental education into the visitor's experience.

A large multi roomed concrete high rise building, consuming excessive energy and water with golf courses would not be an ecolodge.



6. Who stays at an Ecolodge?

It is essential for any business to understand the market. Annually, over 1.2 billion travellers explore the globe and the market for authentic ecolodges is increasing, as travellers seek sustainable products and meaningful experiences. However, ecolodges will always attract a niche market, this is particularly the case if we take into account how remote many of Myanmar's protected areas are. Eco-conscious visitors wanting to reduce their overall travelling footprint, preferring to explore an area that is environmentally and/or culturally rich, are more likely to seek an ecolodge experience.

Ecolodges are much more than a bed for the night; they are an essential part of the holiday experience. The saying 'be at one with nature' is the central objective for an eco conscious visitor. Providing a sense of place to visitors, they enable them to experience and appreciate the biodiversity and culture of an area, with the opportunity to engage with local communities, learning about their traditions. Essential to the market performance of an ecolodge is its ability to provide nature based attractions, for example endemic and rare bird species for bird enthusiasts.



7. Ecolodge Activities

Ecotourists are keen to discover unspoilt, natural environments, wildlife and interesting local cultures. They want to have an all encompassing learning experience, through observation of plants and animals, as well as gaining knowledge of local cultures and traditions. Underpinning this is the desire to see local communities benefiting from ecotourism. Ecotourism is educational and adventurous and its can provide active, exploratory and sensory experiences.

Examples include:

• Nature walks and interpretation	• Photography tours
• Trail hiking, running, jogging	• Fishing
• Wildlife tours and birdwatching	• Swimming in pools, rivers, lakes and sea
• Horse-riding/hacks	• Scuba and snorkelling
• Mountain biking and cycling tours	• Boat trips
• Sea/Fresh water kayaking	• Archaeological tours
• Rafting	• Educational talks and presentations
• Vehicle safari/nature drives	• History and cultural experiences
• Rock climbing, zip lines and abseiling	• Student and academic research programmes
• Mountaineering	



8. Ecolodge Development Best Practice

Ecolodges must be a) energy efficient, b) be active in the conservation and protection of natural resources and c) a support for preservation of local cultures and economic improvements. Below are six questions designed to inform developers of best practice during the development and operation processes of any planned ecolodge in Myanmar's protected areas:

1. Is there compatibility with the natural and cultural values of the designated protected area?
2. Does the design fit into the character of the surrounding area?
3. Can the lodge demonstrate a minimal site footprint?
4. Is there proactive contribution to the protection and preservation of the protected area?
5. Does the lodge engage, consult, communicate and provide benefits to the local host communities?
6. Do core services include cultural and environmental education and interpretation for visitors, staff and the community?



9. Remoteness and Cost

The remote location of an ecolodge in a protected area must be taken into consideration in terms of its distance from a developed road and other infrastructure. There may be a lack of, or limited, electrical, water and wastewater mains connections. Access to communications may also be challenging for the design, construction and operation of the lodge. To provide solutions to these challenges can result in an increase in cost of the project. For example, construction materials may be available locally, but engineering for solar power and water management may provide more of a challenge to source. There may be difficulties in recruiting local labour, both in construction and operation, particularly as many locals may find it too challenging to move from agriculture to service sector, having never engaged with this sector before.



10. Ecolodge Design and Construction

10.1 Site Selection and Environmental Impact Assessments

The process of choosing suitable sites and developing designs before construction can begin, takes a collaborative approach. This involves working in close cooperation with local communities, Local Authorities, MoNREC, MoHT and local GOs and NGOs involved with communities and conservation. A comprehensive Environmental Impact Assessment (EIA) which incorporates assessment of social impacts, in accordance with the Myanmar EIA Procedure must be completed. The EIA should consider the suitability of the site, including measuring water availability and other users, as well as undertake research into any land and access issues that may impact on local communities. The EIA should include design, operation and location alternatives that have been considered for avoiding or mitigating impacts (Article 58 EIA Procedure). An ecolodge project should identify activities which will be offered to visitors and how their impacts on the environment or local culture will be mitigated, and also list any activities which will not be available to visitors as negative impacts would be too significant to mitigate. EIA experts registered with the Environmental Conservation Department must conduct these assessments, which should be undertaken consistent with the 2015 EIA Procedure and take into account relevant Myanmar laws. Site assessment criteria will include but is not limited to:

• Local community impacts	• Remoteness
• Access: distance from road, airports and ports/marinas	• Seasonality
• Scenery and views	• Possible flood sites or other seasonal events
• Natural resources	• Land ownership and access rights
• Cultural resources	• Disturbance of fauna
• Activity potential	• Landscape alteration
• Adjacent land use	• Impact of tourist cultures on host community



E-learning resources – site suitability

Best Practice Ecotourism Development Guidelines. Queensland Government (2014).

www.nprsr.qld.gov.au/tourism/pdf/eoi-best-practice-ecotourism.pdf

10.2 Design

“Architecture and infrastructure should integrate harmoniously with the surrounding area, for example by using natural materials and low structures – be minimally visible”. As with any design project, an architect that has experience with ecolodge design must be found and also show willing to adapt the following principles:

- Natural light and warmth should be used to their advantage in building design, as well as wind for ventilation and cooling. Reducing the amount of air conditioning needed to cool a building can be achieved by using shade provided by existing mature trees.
- Key components in the lodge design should include sustainable local materials and use of recycled products. Using local material can have a positive economic impact on the revenue and employment of local enterprises, as it minimises transportation of imported resources and reduces costs. However extraction of non renewable local materials such as sand, river stones or rock must not have a negative impact for example, erosion or loss of beach and wildlife habitat. Beach sand and coral must not be used for construction.
- Reducing future environmental impacts must be central to the design which should address how consumption of operational water, energy and materials will be minimised. For example investigate installing equipment that promotes water efficiency (small cistern toilets, grey-water recycling and collection of rainwater for gardening – see 11.1, 11.2 and 11.3 below for more guidance).
- Minimising the impact of noise and light pollution on the local community, visitors and wildlife, must influence the lodge location, size and construction techniques. Where possible natural light should be used. Throughout darkness suitable lighting for security, safety and orientation must be in operation.
- There should be a strong aesthetic aspect in an ecolodge’s development and design; incorporating local architectural and cultural styles.
- ‘Below the treeline’ designs will reduce the visual impact of the lodge. Careful planning of landscaped areas can have a positive impact on the biodiversity of an area; indigenous species can be planted and therefore conserved. In addition buildings, parking areas, roads and tracks can be aesthetically covered by trees and vegetation. Design should ensure native vegetation is incorporated or retained in the landscape.

The following questions are adapted from the Queensland Government’s ‘Ecolodge Best Practice’ document and provide a comprehensive approach, ensuring that the site’s layout, design and appearance meet the overall Myanmar Ecotourism guidelines for a protected area:

- Does the Ecolodge blend into the surrounding and do landscape features dominate?
- Does the Ecolodge design and layout maximise the use of geographical features?
- Does the Ecolodge ensure the sounds, sights and scents are incorporated into the design?
- What is the Ecolodge area footprint? Can this be minimised?
- How renewable energy technology can be used?
- Can the Ecolodge use aspect and orientation to provide insulation, ventilation, passive heating and cooling?

- Does the local material and overall appearance reflect the aspects of the local culture and other local buildings in the area?
- Is the choice of landscaping self-sustaining and will require minimal maintenance?
- Will sustainable features form a central component of the design such as recycled material, efficient water and energy systems? Will they be promotable as core Ecolodge features?

E-learning resources – design

A comprehensive guide to Ecolodge Architectural Design By the world renowned Ecolodge architect Hitesh Mehta.

[www.uvm.edu/rsenr/rm230/Mehta Chapter 3.pdf](http://www.uvm.edu/rsenr/rm230/Mehta%20Chapter%203.pdf)

10.3 Construction

Demonstrating a respect for the specific environmental conditions of working in sensitive sites must be a priority for the contract team. This includes:

- Understanding how to protect local vegetation and ecosystems
- Use of low impact and manual construction techniques
- Participation of local labour
- Fencing areas or zones of special importance
- Restricting the construction footprint around the building site
- Maintaining only one vehicle access corridor within and around the site
- Removing all excavation materials to a designated location or to an appropriate on-site location

10.4 Key Guidelines

- Utilise and buy local construction materials wherever possible
- Consider natural materials that are or can be recycled including glass, tiles and wood
- Keep site disruption and excavation to a minimum
- Any soil, sand and gravel brought into the site should be free from weeds and diseases
- All contractors and construction workers are educated on the ethos of the ecolodge and the importance of maintaining the environment during construction
- Ensure that quantity surveyors have adequately assessed the volumes of resources required to construct buildings to minimise construction material wastage. This will also save on costs.
- Minimising the transformation of the environment around the enterprise
- Existing mature trees and nearby vegetation in and around the site are maintained.
- Choose materials that have minimal finishing or maintenance
- Choose local sustainable materials where feasible: Bamboo, Local stone, sustainable woods

Ecolodge case study – construction

Montana Magica Ecolodge: leading example on how to build sustainably and in harmony with nature.

huilohuilo.com/nuestros-alojamientos/montana-magica-lodge/

Basata Ecolodge: building with clay, animal manure and straw

www.youtube.com/watch?v=_FnYLwfFR8k

11. Ecolodge Operation

Consumption of resources in the lodge will be intensified during the operational phase. Negative impacts can be minimised and positive impacts maximised by adopting key practices across the triple bottom line (environmental, social and financial sustainability):

- A dedicated member of staff must be appointed to take responsibility for the lodge's environmental policy and its implementation.
- Staff must be actively involved training programmes; and invited to suggest ideas for environmental actions that the ecolodge could support.
- Sustainably harvested and/or sustainably produced products must be used.
- Items obtained from threatened species or populations must not be used.
- Resources produced or harvested using unregulated methods, or those that cause damage to biodiversity, or, indeed, may be illegal (for example dynamite fishing) must not be used.
- Choose local suppliers and encourage them to adopt sustainable approaches to their resources; for example ensuring product packaging is minimal. Buying products in bulk with packaging made from natural materials is desirable where possible.

11.1 Water Management

Water is an essential resource for tourist accommodation and it must be well managed to avoid over use, potentially resulting in serious depletion of local water resources. This causes extensive environmental damage and will also have a negative social impact on the surrounding communities.

Reduction of water consumption can be achieved through:

- Collection, storage and use of rainwater, through guttering, down pipes and storage tanks.
- Installation of low flush toilets or consider dry or composting toilet systems, In areas of water stress, eco-lodges will be required to use dry/composting toilet systems
- Install showers, with timers, and do not install baths
- Use of smaller sinks with plugs
- Promotion of water conservation messages to staff and visitors.

A Water Conservation Plan should be in place from the planning and design phase:

- Specify water conservation planning goals and targets
- Description of a Water System Profile
- Reuse and recycling plan
- Preparation of a 'Demand Forecast' by department (kitchen, accommodation, maintenance)
- Description of all Water Conservation Measures
- Implementation of a 'Water Strategy and Monitoring Plan'

Ecolodge case study – rainwater harvesting

Mihingo Lodge, Uganda

www.youtube.com/watch?v=Ztc8xRFAT54

11.2 Waste Management

Large volumes of solid and liquid waste, both organic and non-organic can be generated from hotel accommodation. As many ecolodges tend to be located in remote protected areas, it is imperative that a comprehensive waste management plan is undertaken in order to prevent sewage and waste from contaminating the natural environment.

Waste management plan should demonstrate the following benefits:

- Reduce potential pollution impacts
- Reduced manpower requirements for waste handling and disposal
- Reduced haulage and landfill tipping
- Potential for revenue from the sale of recyclables
- Protection from insect and rodent infestations
- Reduction of fire hazards
- Improved community relations
- Compliance with government regulations and codes
- Reduced odours and improved aesthetics and sanitation
- Increased guest satisfaction.



The operational waste management plan should incorporate the following:

- Waste water (grey and black)
- Package reduction policy, particularly for PET single use water bottles, which should be avoided
- Vegetation composting and disposal program
- Separation and recycling program
- Surplus and used Items
- Use of natural cleaners and pesticides
- Guest recycling and room waste separation program
- Guest education programme for recycling program and in-room waste separation
- Separation and Storage of Solid Waste before Disposal
- Develop Operational Manual for all departments and provide background and training on important environmental issues and advantages of the policy
- Prepare a Product Purchasing Policy

E-learning resources – food waste reduction

Green Hotelier

www.greenhotelier.org/know-how-guides/reducing-and-managing-food-waste-in-hotels/

11.3 Energy Efficiency

Measures to ensure energy conservation should be a priority for ecolodges. An Energy Conservation Measures and Monitoring Plan should be developed at the planning and design phase. Producing a strategy for adopting energy efficient measures at this stage, will have a positive impact throughout the lodges lifestyle in terms of environmental and cost savings.

This plan will include but not be limited to:

- Renewable energy or co-generation schemes, including wind, thermal, fuel cell, etc.
- Energy Management Systems
- Energy efficient refrigeration
- High efficiency appliances
- Solar Energy Systems
- High efficiency thermal water heaters and instantaneous/tank less water heaters
- Waste Heat/Energy Recovery Systems (air, steam, etc.)
- Ground Source Heat Pumps
- Efficient Piping design (steam, water and glycol piping)
- Efficient florescent lighting
- Solar and Photovoltaic Panels
- Thermal Hot Water Heaters
- Wind turbines and Other Hybrid Power Sources
- Low-energy Consumption Appliances

The program may also include the following:

- Description of renewable energy sources used in the ecolodge
- Available energy consumption for each client
- Individual methods to conserve energy while at the ecolodge

E-learning resources – energy efficiency

Hotel Energy Solutions: Key Energy Efficiency Solutions for SME Hotels

hes.unwto.org/sites/all/files/docpdf/keyenergyefficiencysolutionsaugustfinalversion.pdf

12. Community Involvement

Engagement of the local community is crucial from the beginning of the planning process in order to develop ecolodge community relations and partnerships. This will enable community understanding, agreement and approval of the economic, cultural and conservation benefits (the triple bottom line: environmental, social and financial sustainability) that are proposed by the ecolodge:

- Local employment opportunities should be maximised. Having an inclusive management team and management training which involves local community members is important to achieve this goal.
- Community earning potential could be maximised by developing the handicrafts sector, selling local produce (e.g. honey, tea, coffee) and expanding the overall value chain benefits throughout the community by developing inclusive business practices.
- Deliver authentic cultural exchanges between communities and tourists in a sensitive and appropriate manner
- Promote the tourist “Do’s” and “Don’ts” to minimise disturbance and offence to local communities. In addition, the ecolodge must work with local communities to develop area specific do’s and don’ts, for example limiting access to certain spiritual areas, behaviour in villages and so on.
- Ensure the community are not prevented from accessing their traditional natural resources or environments. Respect traditional land access.



- Collaborate with the community, exploring options on provision of social benefits to the community, eg health and education support.
- Consultations and meetings should occur regularly throughout the lifecycle of the lodge, ensuring engagement of the local community in relevant issues regarding the ecolodge and the impact of tourism in the area.
- Work with the local community on educational programmes relating to the importance of environmental protection and protected areas. Investigate opportunities to deliver outreach training programmes to local schools. Ensure that the Ecolodge has an operational grievance mechanism designed with the community, in case of complaints. Tracking and handling complaints will also be a condition of the EIA approval.
- Build relationships based on trust by using the local language through an interpreter
- Create the role of Community Liaison Officer to act as a focal point for the community. This does not have to be a full time dedicated job and it could be an existing member of the team. Ideally this person will be recruited from the local community as they will have relevant language skills and cultural understanding.

Key areas where community members can be employed either directly or through contracting their services:

- Directly employed Staff (Front office, Kitchen, Cleaning, Gardening, Maintenance, Security)
- Guiding and interpretation
- Supplying of handicrafts and cultural experiences
- Suppliers of local food and produce
- Maintenance and services for the ecolodge e.g., mechanics and bike maintenance

Ecolodge case study – community

Elsa's Kopje, Kenya - An award-winning lodge committed to the preservation of Meru National Park through tourism and community development

elsaskopje.com/

13. Ecolodge Ecosystem Considerations

Mountain Environments

Mountainous areas are one of the most fragile ecosystems, therefore careful consideration must be given by ecolodge planners to the potential negative impact of the development on the local ecosystem and communities. Planners must be mindful of potential damage that may lead to the following:

- Lead to erosion that will alter the natural landscape;
- Lead to land-clearing and habitat conversion;
- Lead to wildlife disturbance and relocation through increased noise, light and human presence;
- Block or redirect natural watercourses and drainage paths;
- Create over-shaded areas, thus altering vegetation composition and distribution;
- Detract from the “natural” countryside experience and appearance;
- Affect the day-to-day lifestyle of mountain communities.



Nevertheless, through well planned, designed and sited infrastructure, mountain lodges can:

- Help prevent erosion from vehicle and pedestrian traffic;
- Reduce the disturbance of wildlife;
- Keep visitors to defined routes and paths, limiting impacts on flora and fauna;
- Limit access to fragile and sensitive sites;
- Limit access to private community areas;
- Help protect the quality of mountain attractions;
- Improve and facilitate a safer and more satisfying visitor experience;
- Limit the impact of larger groups and repeated, intense use of certain areas.

Ecolodge case study – mountainous ecosystems

Glass House Ecolodge, Australia: low-impact building and mountain ecosystem conservation through ongoing initiatives.

www.glasshouseecolodge.com/our-practices.html

Marine Environments

Marine based ecolodges have many of the same characteristics that are relevant to other ecolodges, as already discussed, but with the addition of the specified ecosystem. MoHT Order 2/2015 for Sustainable Coastal Areas is the main Myanmar framework for this, but it is not exhaustive.

Key factors important for siting a marine Ecolodge:

- Avoid damaging attributes including mangroves, wetlands, dunes, estuaries, nesting and habitat sites for marine reptiles, mammals and seabirds.
- Site the lodge in a location where minimal coastal terrain will need to be modified.
- If facilities must be built on the beach (in front of the dune) consider low investment, non-permanent buildings. These buildings can be removed before storms and rebuilt afterwards.
- Minimize vegetation clearance and maintain tree and dune vegetation cover.
- Incorporate areas to maintain a buffer zone or “set back” between the shoreline and facility.
- Site piers in water deep enough to accommodate boats rather than relying on dredging. Floating docking systems may prove to be a more environmentally sensitive alternative to traditional piling construction techniques.
- Site marinas in areas that will maximize the exchange of water through natural flows and tides.
- Avoid outward-facing lighting on shoreline, especially in areas where wildlife could be impacted.

Ecolodge case study – marine ecosystems

Saladero Ecolodge, Costa Rica: comprehensive approach to operation sustainability along with active involvement in marine conservation. www.saladeroecolodge.com/sustainability-2

14. Criteria for Success

A successful ecolodge must meet the three pillars of sustainability: ecological, socio-cultural, and economic. Ultimately, an ecolodge will need to be run as a business to be successful and must contribute to the area's biodiversity conservation. To summarise in very simple terms, the natural environment must benefit from an ecolodge, local communities must benefit, visitor's must benefit, and the business must be economically vibrant.



Useful Resources

Myanmar Laws

Environmental Impact Assessment (EIA) Procedure

http://www.aecen.org/sites/default/files/eia-procedures_en.pdf

Environmental Conservation Rules (2014)

http://www.burmalibrary.org/docs21/2014-06-Environmental_Conervation_Rules-en.pdf

The Myanmar Hotel and Tourism Law

<http://www.myanmar-tourism.org/index.php/about-us/myanmar-hotel-and-tourism-law>

MoHT Order 2/2015 for Sustainable Coastal Areas

The Myanmar National Biodiversity Strategy and Action Plan and other biodiversity protection laws are highlighted on the following link, further details can be supplied by the Forestry Department, Ministry of Natural Resources and Environmental Conservation.

www.fdmoea.gov.mm/eng/protection/policy-laws-and-rules

dg.fd@mptmail.net.mm

Myanmar Tourism and Conservation Policy

Myanmar's Tourism Master Plan 2013 - 2020

<http://www.harrison-institute.org/MyanmarTourismMasterPlan202013-2020.pdf>

Myanmar's Responsible Tourism Policy

<http://www.myanmar-responsible-tourism.org/myanmar-responsible-tourism-policy/>

Myanmar's Community Involvement in Tourism

<http://www.myanmar-responsible-tourism.org/policy-on-community-involvement-in-tourism-cit/>

National Biodiversity Strategy and Action Plan 2015 – 2020

<http://www.myanmar-chm.gov.mm/sites/default/files/publication/NBSAP%202015-2020%20English.pdf>

International Ecolodge Guidelines: Planning, Design and Operation

UNWTO - International Ecotourism Guidelines

<http://www.e-unwto.org/doi/book/10.18111/9789284405480>

The Nature Conservancy – Ecolodge Guidelines

<https://www.scribd.com/document/317294225/Ecolodge-Guidelines-v1>

Egypt - Manual for Ecolodge Planning, Design and Operation.

<http://epasp.org/documentation/ENHANCING-SUSTAINABLE/Part5.pdf>

Australia, Queensland - Best Practice Ecotourism Development Guidelines

<http://www.npsr.qld.gov.au/tourism/pdf/eoi-best-practice-ecotourism.pdf>

Botswana – Ecotourism Best Practices Manual

<http://www.botswanatourism.co.bw/sites/default/files/publications/BTO%20EcoTourism%20Best%20Practices%20Manual.pdf>

Sustainable Building Guides

Green Building Materials: A Guide to Product Selection and Specification, 3rd Edition

<http://as.wiley.com/WileyCDA/WileyTitle/productCd-047053804X.html>

Sustainable Construction: Green Building Design and Delivery, 3rd Edition

<http://as.wiley.com/WileyCDA/WileyTitle/productCd-1119055172.html>

Shaping Buildings for the Humid Tropics. Patti Stouter. ASLA. 2008

<http://www.greenhomebuilding.com/pdf/shapingbuildings1.pdf>

Eco Housing Guidelines for the tropical regions of Asia. UNEP.

<http://www.chs.ubc.ca/archives/files/Eco-Housing%20Guidelines%20for%20the%20Tropical%20Regions%20of%20Asia.pdf>

Sustainable Tropical Building Design. Cairns Regional Council. 2011. (Australia)

http://www.cairns.qld.gov.au/__data/assets/pdf_file/0003/45642/BuildingDesign.pdf

Water Efficiency

Kuoni - Water Management Manual for Hotels

http://www.kuoni.com/docs/kuoni_wmp_manual_0.pdf

Water Efficient Designs for Ecolodges. Ahmed K. Mohamed.

https://www.academia.edu/3088038/water-efficient_design_guidelines_for_ecolodges_along_egyptian_coasts

The Travel Foundation - Resource Efficiency for Hotel Managers

http://www.thetravelfoundation.org.uk/images/media/Handouts_-_English.pdf

NYC Environmental Protection - Hotel Manager's Guide to Water Efficiency.

<http://www.nyc.gov/html/dep/pdf/conservation/housekeeping-booklet.pdf>

Energy efficiency

Hotel Energy Solutions - Successful Energy Efficiency Technologies Integration in SME Hotels.

<http://hes.unwto.org/sites/all/files/docpdf/bestpracticesguidesuccessfuleetintegrationinsmehotelsaugustfinalversion2.pdf>

Hotel Energy Solutions – Successful Renewable Energy Technologies Integration for SME Hotels.

<http://hes.unwto.org/sites/all/files/docpdf/bestpracticesguide-successfulrenewableenergytechnologiesintegrationinsmehotels2282011.pdf>

Hotel Energy Solutions – Key Renewable Energy (RE) Solutions for SME Hotels.

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Solid and Wastewater Management

UNEP – A Manual for Water and Waste Management: What the Tourism Industry Can Do To Improve Its Performance.

<http://www.unep.fr/shared/publications/pdf/WEBx0015xPA-WaterWaste.pdf>

International Tourism Partnership – Environmental Management for Hotels

<http://www.greenhotelier.org/wp-content/uploads/2014/09/3-Water-for-web-1-1.pdf>

Waspa Asia – Guide to On-site Wastewater Management for Industrial and Commercial Establishments and other Institutions: Hotels and Restaurants Owners and Managers

www.iwmi.cgiar.org/Publications/Other/PDF/Final%20WASPA%20Booklet%202-Hotels.pdf

Low Cost Composting Training Manual

<http://www.ruaf.org/sites/default/files/Low%20costs%20composting%20training%20manual.pdf>

Envirowise – Cost Effective Management of Organic Waste from the Food and Drink and Hospitality Sectors

<https://www.leanbusinessireland.ie/includes/documents/Envirowise%20guide.pdf>

Education, Interpretation and Learning

CRC for Sustainable Tourism – Best Practice and Interpretation in Tourist/Wildlife Encounters. 2004.

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Department of Conservation, Wellington – Interpretation Handbook and Standards. 2005.

<http://www.doc.govt.nz/documents/about-doc/role/policies-and-plans/interpretation-handbook-complete.pdf>

Tilden's Principles of Interpretation.

<http://culturalheritagetourism.org/wp-content/uploads/formidable/Tildens-Principles.pdf>

UNESCO – A Manual for Interpreting Community Heritage for Tourism.

<http://icrtourism.com.au/wp-content/uploads/2012/09/interpreting-manual.pdf>

Ecolodges in National Parks and Protected Areas: Development Case Studies

Koiya Star Beds, Kenya

http://www.awf.org/sites/default/files/media/Resources/Books%20and%20Papers/Koiya_Starbeds_Ecolodge_Case_study.pdf

Tiger Tops, Asia

<http://www.tigertops.com/wp-content/uploads/2012/05/Tiger-Tops-Case-Studies.pdf>

Leading Examples of Eco Lodges

MONTANA MAGICA LODGE, PERU

An integrated eco-lodge with the natural environment with vertical and roof gardens and zero waste approach.

<https://huilohuilo.com/nuestros-alojamientos/montana-magica-lodge/>

BULUNGULU, SOUTH AFRICA

Community in partnership lodge. One of the first lodges to be Fair Trade accredited.

<http://www.bulungula.com>

CHOLEMIJINI, TANZANIA

A Jungle Island retreat, with treehouse accommodation providing eco conservation, education and community benefits.

<http://www.cholemjini.com>

ECOLOGGE CHEPU ADVENTURES, CHILE

Award-winning lodge of innovation in sustainable living and tourism, featuring alternative energy, solar showers, and low impact activities.

<http://www.chepu.cl>

LANJIA LODGE, THAILAND

Community owned and run. Small scale

<http://www.asian-oasis.com/product/lanjia-lodge-hilltribe-discovery/>

Other Relevant Reading

Di Paul, Eagles, Bowman and Chang-Hung Tao. Guidelines for Tourism in Parks and Protected Areas of East Asia. IUCN, 2001.

Moscardo and Benckendorff. Education for Sustainability in Tourism: A Handbook of Processes, Resources, and Strategies. Springer, 2015.

Hawkins, Donald, Megan Wood, and Sam Bittman. The Ecolodge Source book for Planners and Designers. The Ecotourism Society, 1995.

UNEP Switched On: Renewable Energy Opportunities in the Tourism Industry" (Renewable energy options for lodging facilities)

www.uneptie.org/pc/tourism/library/energy.htm

US Department of Energy - Energy Efficiency and Renewable Energy (Renewable energy, energy conservation and energy-efficient buildings)

www.eere.energy.gov

PA Consulting (Information on the USAID Jamaica EAST project – energy and environmental management systems for hotels)

www.paconsulting.com/industries/travel_tourism/projects/americas/Jamaica.htm

Contributing Organisations

Myanmar Ministry of Natural Resources and Environmental Conservation

The Myanmar Ministry of Natural resources and Environmental Conservation, through the Department of Forestry and the Nature and Wildlife Conservation Division is responsible for the sustainable management of Myanmar's Protected Area System, and is the ICIMOD nodal contact in Myanmar. It is responsible for the National Biodiversity Strategy and Action Plan

Myanmar Ministry of Hotels and Tourism

The Myanmar Ministry of Hotels and Tourism is Myanmar's responsible agency for promotion of the sustainable development of tourism, licencing of tourism businesses and oversight of the tourism industry. It has lead the region with the development of the Myanmar Responsible Tourism Policy, Myanmar Tourism Master Plan and the Myanmar Community Involvement in Tourism Policy.

ICIMOD

The International Centre for Integrated Mountain Development, ICIMOD, is a regional knowledge development and learning centre serving the eight regional member countries of the Hindu Kush Himalaya – Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan – and based in Kathmandu, Nepal. Globalisation and climate change have an increasing influence on the stability of fragile mountain ecosystems and the livelihoods of mountain people. ICIMOD aims to assist mountain people to understand these changes, adapt to them, and make the most of new opportunities, while addressing upstream-downstream issues. We support regional transboundary programmes through partnership with regional partner institutions, facilitate the exchange of experience, and serve as a regional knowledge hub. We strengthen networking among regional and global centres of excellence. Overall, we are working to develop an economically and environmentally sound mountain ecosystem to improve the living standards of mountain populations and to sustain vital ecosystem services for the billions of people living downstream – now, and for the future.

Myanmar Tourism Federation

The Myanmar Tourism Federation (MTF) stands as a national level non-governmental organisation representing and safeguarding the interests of Myanmar's tourism sector. It is the umbrella organisation of eleven national tourism associations, which themselves represent different subsectors of the industry. MTF is dedicated to the promotion of Myanmar as a sustainable tourism destination, to the facilitation of investment in tourism in Myanmar, and to capacity building and human resource development in tourism-related business activities.

myanmar.travel

BANCA

The Biodiversity And Nature Conservation Association (BANCA) is a Myanmar Registered Charity, with the vision of Myanmar being a nation with a flourishing nature and rich biodiversity and where people live in harmony with nature. BANCA conducts conservation of nature, through action based on research, advocacy, partnership, network building, education, people's participation and public awareness.

www.banca-env.org

Myanmar Responsible Tourism Institute (MRTI)

Established in March 2016, the Myanmar Responsible Tourism Institute (MRTI) is a non-profit organisation that envisions Myanmar as a responsible tourism destination, making a better place to live, work and visit. MRTI supports responsible tourism development in Myanmar through knowledge sharing, training, and research, and work cooperatively and responsibly with tourism actors and stakeholders.

www.myanmarresponsibletourism.org

Myanmar Hill Lodges

Myanmar Hill Lodges own and operate by a group of comfort lodges situated in the highland of Shan Plateau of Myanmar. They are a leading socially and environmentally responsible business, applying the principles of responsible travel - minimize environmental impact, maximize cultural interaction and ensure an economic benefit to the community.

myanmarhilllodges.com



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