MARINE ECOTOURISM FOR SUSTAINABLE DEVELOPMENT IN THE THIRD WORLD – POTENTIALS AND CONSTRAINTS

G. Poyya Moli

Abstract

Tourism has emerged as one of world’s largest industries and a fastest growing economic sector. However, the diversity, integrity and productivity of many key third world marine/coastal ecosystems have been severely eroded due to tourism and other human activities. This increases the conflicts between conservation of natural resources/biodiversity and development, besides the local livelihoods. Fortunately, the newly emerging marine Ecotourism can be effectively used in the third world for not only achieving the objectives of the CBD, but also for ensuring Socio-Economic and Environmental sustainability, in the post-tsunami situation by adopting the principles of ICZM. The potentials and constraints for evolving and implementing such innovative tourism strategies are discussed with their policy/planning implications.

Key words: Creative cultural industries, integrated coastal zone management, marine ecotourism, sustainable livelihoods, third world

88 Department of Ecology & Environmental Sciences, Pondicherry University
Tourism has emerged as one of world’s largest industries and a fastest growing sector of the world economy (Yeung & Law, 2005), with an average annual growth rate of 7%. Ecotourism (ET) is the tourism industry's fastest growing sub-sector, with an estimated world-wide annual growth of 10-30%. Some estimates suggest that 20% of all international tourists are in some way involved in ‘ecotourism’ (Epler Wood, 2002). According to the World Wildlife Fund for Nature 20% of revenue generated from tourism in developing countries is due to ecotourism (WWF, 2001).

The marine/coastal ecosystems of third world countries are invariably the most ecologically and culturally diverse regions of the world, attracting an increasing number of tourists (Miller & Auyong, 1991; Miller, 1993). However, the diversity, integrity and productivity of many key marine tourism destinations in the third world have been severely eroded, impacting a large poor population who are heavily dependent on them. The persistent and rapid decline in natural coastal ecosystems, habitats and species is not only reducing the availability of goods and services to the local resource dependent communities but also reducing opportunities for sustainable economic growth (Beekhuis, 1981; Archer, 1985; Bringas-Rábago, 2002; Sawkar et al., 1998; Reddy, 2007; Cameron & Gatewood, 2008).

Though tourism in marine ecosystems could lead to a variety of potential benefits, uncontrolled mass tourism, the most predominant form of tourism today, inevitably increases the conflicts between conservation (natural resources/biodiversity), development and local livelihoods. Though it is well known that “environment (e.g. climate, sun, water and sand) is the travel industry’s base product”, it is rarely respected /understood by the tourism promoters and is seldom discussed in the literature. Though natural beauty and cultural heritage represent a competitive advantage for many areas, how many in the tourism industry really care about vanishing species of plants and animals or degradation/pilferage of heritage monuments or for that matter acculturation of tribes in the highly vulnerable island settings? Many of these decisions are irreversible/ interconnected because once habitats/ Ecosystems/ communities lose the character that make them distinctive and attractive to non residents, they have lost their ability to vie for tourist-based income in an increasingly global and competitive marketplace (Liu & Var, 1986; Holder, 1988; Lea, 1988; Inskeep, 1991; Mieczkowski, 1995; George & Poyya Moli, 2007a).
The emerging principles of sustainable development in general (WCED, 1987; Lele, 1991; UN 2002 & 2005; DEFRA, 2005) and sustainable tourism/Eco-tourism in particular (Eber, 1992; Wight, 1993; Cater, 1993; Woodley, 1993; Honey, 1999; Scheyvens, 1999; Ross & Wall, 1999; Sweeting et al. 1999; European Communities, 2000; Hardy & Beeton, 2001; Asian Productivity Organization, 2002; Al-Sayed & Al-langawi, 2003; Epler Wood Report, 2005; UNEP, 2005; Wink, 2005), could contribute significantly to the conservation and long term sustainable development of coastal tourist destinations (Loannides, 1995; White et al. 1997; European Communities, 2000; Orams, 2002; Garrod & Wilson, 2004; Garrod et al., undated; Jennings, 2004; Hoyt, 2005).

This paper aims to promote marine ecotourism (MET) as a tool for regeneration of peripheral coastal communities, to generate appropriate local, regional and national guidance on the site specific spatial planning structures, policies and frameworks to achieve long term sustainable development by reducing regional disparities/conflicts. It also aims to identify and evaluate potentials and constraints for diversification into MET, thereby developing products that not only enhance the quality of tourism but also help to reinforce the economic and social/cultural cohesion of coastal communities in the third world.

BACKGROUND

The coastal/marine zones support a wider variety of ecosystems (mangroves, estuaries, coral reefs, sea grass beds, coastal forests, beaches) that co-exist in a state of dynamic balance. They are among the ecologically fragile and economically important ecosystems. Besides, they share all the characteristics of the mountain ecosystems (remoteness, fragility & endemism) except upland/low land linkages that are replaced by island-mainland linkages. Coastal/marine regions are different from others by a wider variety of stake-holders, with lack of communication and coordination, inter-sectoral linkages and complexity, common property resource (CPR) use regimes (open access nature of the most of coastal/marine resources) and the conflicting uses and user groups – confronted with over-exploitation, pollution and degradation, fragmented and poorly coordinated policies, ad-hoc decisions for short-term gains at the cost of long-term sustainability and coastal livelihoods (Di Ciommo, 2007).
The out-of-sight, out-of-mind attitudes and gradual nature of the coastal/oceanic processes coupled with low levels of community/stakeholder awareness make the situation worse in the third world countries like India (Sawkar et al., 1998; Reddy, 2007). It is becoming increasingly clear that if tourism planning is not properly done based on sound Ecological and Economic principles, there would be many negative impacts, especially in coastal areas (Price, 1981; Sun & Walsh, 1998; Hall, 2001; Harriott, 2002; UNEP-DTIE, 2002; Mason, 2003; Shaalan, 2005; Jackson, 2006). Such impacts can be broadly classified into:

- Socioeconomic impacts
- Cultural impacts
- Environmental impacts

Of these, the environmental impacts are causing more serious problems in the coastal zones; tourism has inevitable and important environmental impacts, including: resource use, consumption, degradation/depletion of biodiversity, besides various types of wastes and pollution. At the same time, beaches, mountains, rivers, forests and diverse flora and fauna make the marine/coastal environment a basic resource that the tourism industry needs in order to thrive and grow. While the viability of tourism could be threatened by negative environmental impacts, tourism could also contribute significantly to environmental protection. This shows that tourism and the marine/coastal environment are interrelated and interdependent in complex ways, and together they could provide a sustainable economic base for development (Lim & McAleer, 2005).

While habitat destruction, direct harvesting, pollution and marine debris remain the most important threats to marine animals, intrusive or irresponsible methods of marine wildlife viewing can potentially harm and even kill popular animals, such as whales, dolphins, manatees, dugongs and marine turtles. Slow moving marine animals, particularly manatees and marine turtles, can be injured and killed by propellers and fast moving boats. Scarring caused by propellers can make marine animals more susceptible to infection and disease. These animals are often popular attractions for tourists, whose experience may be diminished if they are not present. In addition to poor boating practices, intrusive actions by individual water sports enthusiasts, such as snorkelers, divers and kayakers, can disturb marine life and, in some cases,
drive animals from their primary habitat. For example, the chasing or handling of marine turtles can cause them to abandon primary feeding grounds, while excessive daytime interaction in shallow bays can deprive dolphins of important rest periods. Intrusive viewing can create stress in mothers of marine mammals, separate cow/calf pairs and decrease survival rates in newborn calves (CELB, Undated).

The following are the most common environmental consequences of improper tourism planning/activities that would seriously affect the coastal/marine biodiversity:

- Accidental discharge/disposal of toxic substances/toxic antifouling bottom paints, fuels, cleaning agents and other hazardous materials or other waste into the environment from boats and land based activities - air, water and soil contamination with pollutants and noise pollution especially in peak tourist seasons, due to improper/inadequate implementation of pollution control measures - health hazard to local people and tourists besides deleterious impacts on local flora and fauna (Spiegel et al., 2008; Sale et al., 2008)
- Solid waste pollution/marine debris, chiefly plastics - disposal problems causing littering of the landscape by tourists, and improper disposal of waste generated by tourist facilities (Chaerul et al., 2004; De Araujo et al., 2006)
- Deforestation/removal of soil vegetal cover leading to biodiversity loss, soil erosion, flash floods and siltation/sedimentation - destruction of coral reefs; disputation of soil stability; alteration of drainage system and water run-off -- increases in numbers and scale of landslides, rock falls; unesthetic scars on the landscape (Hall, 2001; Priskin, 2003)
- Extensive damage to near-shore marine ecosystems, especially coral reefs by the use of anchors for mooring commercial/recreational boats. Anchors and the chains connected to them, damage warm water corals by crushing and killing the corals and other reef dwelling organisms on which they fall. Repeated anchor drops or large anchors can break up the integrity of the reef, causing widespread scarring and leaving the injured corals open to infection/bleaching. Anchoring can also cloud water with disturbed sediment, choking tropical
corals and limiting available sunlight, which the symbiotic algae need for photosynthesis. The sediment-filled anchor scars are poor environments for new coral growth, but good environments for fast-growing algae, which may take the place of corals. Degraded habitat reduces the number and variety of fish, which are important for both attracting visitors and ensuring the health of the reef. Besides, reduced visibility due to cloudy water negatively affects the quality of visitor experience to a reef environment. Similar impacts could be observed in sea-grass beds also (Harriott, 2004; Thiele et al., 2005; MacPherson, 2007).

- Structural alteration of plant/animal communities, changes in species composition; disappearance of rare species, decline of diversity of plant species leaving fewer plants to mature and provide shelter for the other dependent wildlife (Hill & Pickering, 2006; Pickering et al., 2007; Paulo et al., 2008).

- Constant trampling—disappearance of fragile species and damage of tree roots; reduction of reproduction rates of vegetation; increased soil erosion and damage of plant habitats; disruption of predator-prey relationships; disruption of feeding and breeding activities, relocation of feeding and breeding areas or even destruction of wildlife habitats and disturbance of wildlife migration (Davenport & Davenport, 2006; Stockin et al., 2008).

- Collection/sale of rare species of marine animals as souvenirs e.g. coral reefs, reef fishes, mollusks, starfishes, etc.(Vaughan, 2000)

Among the several instruments available for overcoming these constraints, for conserving the marine/coastal biodiversity, the convention on biological diversity (CBD) (CBD, 1992) and the first global agreement on conservation and sustainable use of biological diversity (UNCED, 1992) are prominent. Their goal is to maintain the world’s ecological features in the frame of economic development. Their 3 main objectives are:

- Conservation of biological diversity
- Sustainable use of its components
- Fair and equitable sharing of the benefits of the use of genetic resources
Tourism can be considered as a cross-cutting issue within the CBD. This led to the development of international rules and principles focusing on sustainability and to the first “draft international guidelines for activities related to sustainable tourism development” (CBD, 2004).

Community based tourism is a more sustainable form of development than conventional mass tourism as it allows host communities to break away from the hegemonic grasp of tour operators and the oligopoly of wealthy elites at the national level (Sharpley & Tlfer, 2002). In an attempt to differentiate between forms of ecotourism that advance the needs and concerns of local communities, and those that simply take place in natural areas, several researchers have begun to employ the term ‘community-based ecotourism’ (CBET) (Timothy & White, 1999). Recognising a ‘need to promote both the quality of life of people and the conservation of resources’ (Scheyvens, 1999), CBET can be defined as ‘a form of ecotourism where the local community has substantial control over, and involvement in, its development and management, and a major proportion of the benefits remain within the community’ (WWF, 2001).

Despite potential limitations – including problems associated with defining the ‘local’ community, overcoming existing inequalities, and gaining community consensus – CBET offers the possibility of greater local control and participation (Mitchell, 2003). The roots or underlying principles of CBET derive from the concept of community development, a small-scale, locally orientated, and holistic approach to economic growth and social change. CBET strives to merge the sustainability and conservation essential to ecotourism with the benefits, control, involvement, and welfare that underpin community development (Woodley, 1993; Stronzaa & Gordillob, 2008). Thus, CBET appears to be the connecting thread for ensuring environmental, cultural, economic and social sustainability in India (Poyya Moli, 2007a) based on successful case studies elsewhere (Bookbinder, et al., 1998, Gosling; 1999; WWF, 2001; Foucat, 2002).

While community based approaches can be effectively integrated into marine ecotourism (MET), the following characteristics such as ‘intangibility’, ‘heterogeneity’, perishability’ and ‘inseparability’ of tourism described by Holloway & Robinson (1995) are more relevant for MET, as the destinations involved are often remote, with multiple uses/users, promising attractions but are ecologically fragile and culturally sensitive:
• ‘Intangibility’: tourism usually has to be bought (the visitor still has to trust the brochure) before it can be experienced and it is a service rather than a physically product based.

• ‘Heterogeneity’: is the opposite of standardisation: no holiday experience is exactly like another as is the case with a branded physical product/commodity- site specificities - the same tourists may be considering other holidays or activities and be implicitly trading time (and expenditure) between them.

• ‘Perishability’: unsold transport seats, unsold beds in an hotel or unsold places on group tours become instantly worthless, especially for ET locations as they are remote

• ‘Inseparability’: tourism has diverse elements – transport, accommodation, food, entertainment activities, with many different people involved, each of whom can critically affect the quality of a holiday. This would include even the interpersonal interactions (starting from arrival/welcome till departure)

Ironically, the very consequences of lack of development, the un-spoilt character of the marine /coastal water/landscapes and distinctive local cultures, become positive resources as far as tourism is concerned, which will be inevitably/irreversibly damaged by ill-conceived tourism policy/planning (Duffield & Long, 1981; Visser & Njuguna, 1992; Roehl & Ditton ,1993; Vallega, 1994).

MET is typically not targeted on a single species of wildlife. Due to the incidental nature of sightings for many of the species of interest to marine ecotourists, many tour operators focus their provision on multiple species or simply the appreciation of the marine environment in general, rather than with watching particular species of wildlife such as Sea-scapes and geological features (such as caves), maritime heritage and unique cultural characteristics, land-based facilities, such as marine interpretation and sea life centres. Not only do such facilities extend the spectrum of ecotourism activities, but as ‘wet weather’ attractions they help iron out seasonality. Furthermore, they can facilitate participation by a broader section of the population (crafts, artisanal skills, local products etc.) and, very importantly, can even act as ‘drop in’ educational centres for the local population. It is important that marketing plans recognise such opportunities, since this will help marine ecotourism to grow without unduly increasing the burden of pressure on marine
wildlife. These activities may be water-based, land based, or both. They may be formally organised or undertaken independently. They may form the basis of a specialist holiday or simply be an element of a conventional holiday. Whether such activities are indeed marine ecotourism depends on how they are planned, managed and marketed (Anonymous, undated).

In order to maintain/enhance the habitat/ biodiversity and in turn to attract more quality conscious tourists, the tourism industry was forced to seek alternatives. As a result, several alternative tourism strategies have been evolved such as 'green' tourism, 'responsible' tourism, 'sustainable' tourism, ‘eco-development’ tourism, 'eco' tourism (ET), ‘eco-cultural' tourism (ECT), ‘Heritage eco-cultural’ tourism (HECT), ‘Health tourism’, ‘community' tourism, ‘ethical' tourism, ‘fair-trade' tourism and even, most recently, the particularly un-catchy, ‘pro-poor' tourism(PPT). Among these, community based marine ET hold greater promise. Community-based eco-tourism (CBET) is popular as a means of supporting biodiversity conservation as well as sustainable livelihoods, particularly in developing countries (CBD & UNEP, 2007, Poyya Moli, 2007a). Most international conservation organizations also support CBET 89. The major costs of conservation have to be born disproportionately by the local communities, especially the poor, while the benefits are dispersed. In recent years, many funding bodies have taken an indirect approach to conservation, investing in projects that encourage people to take up alternative practices that are compatible with conservation rather than investing in conservation itself. Perhaps the best example of this ‘conservation by distraction’ is ploughing money into community-based ecotourism projects (Nicholls, 2004).

Although the mutual exclusion of ecotourism and mass tourism is implied in definitions of ecotourism, few have actually explored the mechanics of the spatial relationship between the two supposedly separate, ‘polar opposite’ tourism types (Diamantis, 1999).

Weaver (2002a), provides more pertinent exception, commenting that in the ‘rainforest and reef’ ecotourism zone of Asia, concentrations of conventional tourists in beach resort areas and international gateways seek diversionary day-only trips to more ‘natural’ terrestrial or marine locations. Recognizing a gap in the geographical literature on tourism, Weaver concludes by calling for a ‘more systematic examination of emerging spatial and structural patterns of ecotourism in Asia’ (Weaver, 2002a). A similar spatial relationship between ecotourism and mass tourism in southern Thailand illustrates mutual interdependence and benefit (Kontogeorgopoulos, 2004).

Interestingly, most eco-tourists are from North America and Europe, while most eco-tourism destinations are in developing countries that have areas endowed with richer biodiversity and great natural beauty; they have relatively more undisturbed and preserved biologically/culturally richest areas, but are also plagued by poverty, inadequate local participation and tourism developments that are unregulated. This has to be taken into account before introducing ET in these areas (Poyya Moli, 2007a).

Pro-poor tourism (PPT) is emerging as an opportunity to enhance socio-economic sustainability in the third world (Ashley et.al., 2001). PPT is not a specific product but an approach that seeks to increase participation of poor people at many points in the sector, and that aims to increase their economic and social benefits from tourism while reducing the negative impacts on the poor. Through PPT, poor people are able to participate more effectively and directly in product development (Odendal & Schoeman, 1990; Roe & Urquhart, 2002; WTO, 2006). However, indirect participation in the tourism value chain is also important: supply chains, enterprise linkages and non-financial partnerships may reach more people, and be more accessible to the poor (Ashley, 2006). Ensuring the sustainability of supply chains would ensure the adoption of PPT approaches. UNESCO’s informal support to CBET approaches cross and link all the key areas of UNESCO’s work – Education, Culture, Communication, Social Development and the Environment by integrating poverty alleviation with overall development (Ashley, 2006; Ashley et.al., 2006).

While the capacity of the tourism sector to promote pro-poor development is an issue that has attracted recent attention and positive recommendations in policy and academic circles (Ashley et.al., 2001), the following questions have to be answered while
designing PPT oriented MET approaches in the third world - How do poor people gain access to and control over land, water and natural resources and through what institutional mechanisms? How do emerging institutional arrangements in the context of MET affect poor people’s access to land, water and other natural resources? What institutional overlaps, complementarities and conflicts enable or limit access? What new governance arrangements are required to encourage a sustainable livelihoods approach? How do the livelihood concerns and contexts of poor people get represented in MET policy processes concerning land, water and natural resources in local, national and international arenas? What are the challenges for community participation in the MET policy process?

Besides the issues of poverty, peace and sustainability, considered as the indicators of development are threatened due to a myriad of conflicts and they are more visible than ever before in the third world. Tourism considered as a global peace industry has greater potential to reduce these conflicts. The newly emerging Heritage Eco-cultural Tourism (HECT) holds the key for the promotion of peace and sustainability (Poyya Moli, 2003). The potentials for integrating the restoration/revival of heritage elements with sustainable livelihoods through MET are greater in the coastal regions of the third world – especially the islands -as they are endowed with richer heritage/cultural diversity (Kelman, 2007).

**MARINE ECOTOURISM**

**MARINE ECOTOURISM – a brief overview**

Ecotourism (ET) developed ‘within the womb of ‘Environmental movement in the 1970s and 1980s. Growing Environmental concern coupled with an emerging dissatisfaction with ill-planned mass tourism led to increased demand for more authentic nature based experiences of an alternative nature. By mid 1980s, ET was identified as a means of achieving the twin goals of Biodiversity conservation and sustainable development in a number of countries (Dearden & Harron 1994).

ET activities are offered by a large and wide variety of operators, and practiced by an even larger array of tourists. While there is no single universal definition for ET, its general characteristics can be summarized as follows (modified from Ceballos-Lascurain, 1993; Zeppel, 1997; Goodwin et. al. 1998; Drumm & Moor, 2002):
All nature-based forms of tourism in which the main motivation of the tourists is the observation and appreciation for admiring, enjoying and/ or studying nature as well as the traditional cultures prevailing in relatively undisturbed or uncontaminated natural areas by respecting/ protecting/ reviving local cultures and traditions

- It is generally, but not exclusively organized for Environmentally /socially conscious small groups by specialized and small, locally owned businesses.
- It minimizes negative impacts upon the natural and socio-cultural environment.
- It integrates conservation and sustainable livelihoods by providing alternative employment and equitable income opportunities based on tourism related micro-enterprises for local communities and for as many other stakeholders as possible, including private tour operators as well as generates income for protected area conservation. It increases awareness towards the conservation of heritage, natural and cultural assets, both among locals and tourists by participatory, interactive, interpretative, enlightening and educational experiences.
- Involve stakeholders (individuals, communities, ecotourists, tour operators and government institutions) in the planning, development, implementation and monitoring phases.

Among the several forms of alternative tourism types, ET is emerging as a dominant concept throughout the world, attracting a larger number of alternative tourists. ET is a large and fast growing industry, accounting for US $ 2 billion globally in 1996. Though the tourist volume is small, ET can generate sufficient revenue, especially from foreign tourists (true for at least a few sites) – e.g. 1993 data – Madagascar 275 to 360 $ / trip to see lemurs; Belize, $ 350/trip for coral reef diving; Whale watching is one of the fastest growing global tourism sectors and is taking place in more than 70 countries. It has grown tremendously in South Africa, and it contributes largely to poverty eradication and job creation. Whale watching is much more profitable, and sustainable, than killing whales and with full and effective involvement of local communities and if properly
organized, regulated and managed, it can provide financial and other benefits to local people.

MET includes activities that are conducted primarily in a marine setting and involve marine resources or terrestrial resources that occur at that marine/terrestrial interface (e.g. view-scapes, terrestrial wildlife, etc. in the coastal realm). Activities may include viewing, education/interpretation or photography of marine wildlife and environments (mangroves, coral reefs, etc.) besides others such as swimming, diving, snorkeling, paragliding, beach walking, bird watching etc. A variety of whale behaviors could be seen on an ET expedition - blowing, breaching, tail slapping, adult calf interactions as well as many other behaviors. However, whale watching is unpredictable. The chances of seeing a whale are mostly based on luck but can be increased dramatically by going to the right place. This can be ideally linked to the local traditional knowledge of the Fishers.

"Marine protected areas" (MPAs) are used as management tools to protect, maintain, or restore natural and cultural resources in coastal and marine waters. They have been used effectively both nationally and internationally to conserve biodiversity, manage natural resources, protect endangered species, reduce user conflicts, provide educational and research opportunities, and enhance commercial and recreational activities (Salm et.al., 2000). Thus they are ideally suited for community based ET. Such MPAs with higher ET potential exist in several places of the third world. For instance, in India - the Gulf of Mannar Biosphere reserve (Tamil nadu), Sundarbans (West Bengal), Andaman and Nicobar islands and the Lakshadweep islands are notable ideal sites. They possess an immense array of attractions – coral reefs, mangroves, unpolluted silvery beaches, besides portraying a wide treasure of Heritage and tribal cultures. Their pristine nature attracts a large number of national and international tourists and hence can be ideally developed into MET locations. On the contrary, as the current tourism policies and planning of several third world countries have not adequately taken into account the special need for MET planning. Government of India too has failed to distinguish between the two different but overlapping concepts – nature tourism and ET. Not surprisingly, many State tourism development corporations in India too have started promoting nature based mass tourism under the banner of ET in the marine/coastal ecosystems, without integrating Environmental and socioeconomic sustainability in to their programmes!
However, ET can benefit Marine Protected areas (MPAs) in three ways:

- ET by definition would provide financial support for the conservation of Marine Biodiversity by way of visitor fees, accommodation charges, food bills etc.
- ET enhances local livelihoods by providing employment/small business opportunities and thus ensure that the local communities stand to gain by protecting the marine habitats /BD
- ET can be used to raise awareness about the Ecological importance and the rich cultural diversity of the destination areas that are under threat among the local communities and the tourists.

Two key elements that should be considered as part of the master site planning process for tourism in MPAs 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.

**MARINE ECOTOURISM – THE POTENTIALS**

Almost all marine ET destination areas (including small islands, coasts, mountains, wetlands, grasslands and other marine ecosystems and habitats) in the third world are ecologically /culturally vulnerable, but are of outstanding beauty and rich biological /cultural /heritage diversity. Hence, ET can be ideally promoted in such areas. For evolving sustainable ET strategies, we have to adapt the following appropriate environmental/socioeconomic strategies (both for prevention as well as post impact management) that are based on several
guidelines including that of certification programs for sustainable tourism and ET (Honey & Rome, 2001; Honey, 2002; Font et al., 2003), guidelines for sustainable/community based ET (WWF, 2001; Eppler Wood, 2002; Williams, 2006), impacts guidelines and best practices (TIES, 2002), Ecolodge guidelines (The nature Conservancy, undated) and the recently emerging pro-poor tourism approaches (Ashley et al., 2001; Neto, 2003):

- Adopt appropriate green infra-structure that has minimal impact on the natural and cultural surroundings by fitting into the physical and cultural environments through attention to design and landscaping as well as building materials
- Marine environmental protection – controls on pollution, habitat degradation, deforestation of coastal forests, encroachments, alien invasive species
- Controlling the human numbers / activities / impacts within the regular absorbing / carrying capacities and sustainabilities, so that stability, resilience and biodiversity are not irreversibly affected (e.g. Coral reefs - rules against walking on reefs, collection of shells or corals and strict codes of conduct about snorkeling procedures such as no walking, no grabbing at corals, zoning regulations based on reef sensitivity should be imposed and enforced)
- Reducing poverty by providing alternative sustainable livelihoods through training/capacity building and empowerment through deliberatively inclusive policies - thus promoting equity and improving the quality of life
- Working towards self – sufficiency/self reliance to meet the local needs of the communities and the needs of the Eco-tourists
- Integration of conservation and development (policies, legislation, implementation, participation etc) based on a gender balanced approach
- Restoration of lost biodiversity by insitu and exsitu methods
- Sustainable exploitation of biodiversity in general and renewable resources in particular
- Installation of adequate/appropriate water supply, drainage, sanitation, solid waste and sewage disposal systems according to national/International standards – Eco-lodges/Eco-tels/rooms
• Use of materials/energy resources that generate lesser pollutants (renewable resources) and recycling of wastes to reduce pollution as well as by conservation
• Integrate Environmental and cultural education into the visitor’s experience
• Control measures on ship bilge cleaning operations and dumping of solid wastes into waterways during navigation
• Establishment of controls on: prohibited fishing methods on reefs such as dynamite fishing, spear fishing and using poisons; mining of beach sand, use of boat anchors in coral bottom bays (Mooring systems provide permanent lines that allow boaters to fix their position without dropping anchor), cutting of trees in camping and trekking areas, feeding of wild animals (will induce behavioral changes)
• Avoiding the purchase of souvenirs made from coral or any threatened or endangered marine species such as turtles, hard woods, shells from beach traders, or ancient artifacts (which have probably been stolen)
• Avoid menu items that are caught using destructive processes, such as poisons, explosives or illegal equipment; avoid catching and serving rare, threatened or endangered marine species for seafood consumption
• Incorporation of interpretation, training/capacity building and extension programmes for all stakeholders
• Field study centres in exceptionally species rich & highly endemic areas (e.g. Krusadai Islands, GOM region) for scientists and university students – to be devoted for the exclusive use of scientific research /non-destructive field work (observations without any collection/disturbance of the populations) and banning all tourism activities
• Community based monitoring of ET impacts - Eco-tourists too can be involved (e.g. reef/ beach monitoring, use of Environmental health indicators)
• Oceanarium - with representative marine wildlife kept in large well-managed tanks, creating for the visitor a feeling of walking under the ocean (e.g. Malaysia, Australia & Canada). The charges can be moderate to heavy to meet the maintenance expenditures. However, concessions may be given for student groups.
Sharpening political and administrative integrity to reduce the sectoral/policy conflicts by optimal tradeoffs for enhancing both individual and community benefits.

Implement/periodically update the coastal zone regulation legislation for maintenance of environmental quality/health standards.

Strengthening international, including regional, cooperation and coordination for conserving marine BD.

MET plays a particularly important role because it can create jobs in remote regions that historically have been benefited less from economic development programs than have the more accessible areas. Even a small number of jobs may be significant in communities where populations are low and livelihood alternatives are few. Besides, the declining coastal fish catches (as reported by fishing communities after tsunami), make the lives harder for the poorer and miserable traditional fishers. Their idle catamarans and rich traditional knowledge can be effectively used to integrate biodiversity conservation into MET, especially for charismatic, but vulnerable species (that are poached) such as whale sharks. As the importance of coastal/marine tourism has grown in recent years, marine recreation promoters have realized that many marine species previously considered “harvestable” now generate much greater economic value through wildlife viewing by tourists (Goodwin & Swingland, 1996; Bookbinder et al., 1998; Gosling, 1999; Harriott, 2004; Johnston & Tyrrell, 2005; Higham & Lück, 2007).

The recent tsunami appears to be a mixed blessing for those who have survived the disaster. The fishers on the tsunami hit Indian coasts report that while the fish catches have declined post tsunami, there is an apparent re-appearance of star fishes and dolphins. The presence of former indicates that the marine/coastal waters are now purged off the pollutants, thanks to the violent churning action on the sea bottom, while the latter is widely known as a “flag ship/charismatic” species that could attract more wild life enthusiasts. Hence, the safer marine/coastal regions could attract more Eco-tourists in the future (Poyya Moli, 2006).
MARINE ECOTOURISM – THE CONSTRAINTS

In reality, most of the potential benefits are not realized in many third world countries that have a greater potential for ET. The MET represents a way of integrating biodiversity conservation and ecological sustainability considerations into sectoral policies, e.g. regional policies, fisheries, transport and tourism. Yet, experience has shown that if MET is to play this role effectively, it must be developed and marketed within a planning framework that ensures that the practice of ecotourism is compatible with sustainability considerations. Marketing MET encourages tourists to come closer to nature: an activity that carries with it the risk of causing serious harm to the very things that ecotourism providers are helping tourists to experience. MET that is done badly, or excessively, may do more harm than it does good. For example, they may have the effect of disturbing the animals concerned at critical points in their life cycle (e.g. mating or suckling young). This in turn may threaten the biological viability of the populations of whales and dolphins (CELB, undated; Stockin et.al, 2008). Hence, any marketing plan for marine ET therefore needs to be based on awareness of these risks.

Observation over recent years has confirmed that opening up new biodiversity-rich areas for so-called tourism-cum-conservation projects only add to the multi-dimensional impacts of mass tourism. Third world countries, such as India, embarking on strategies to transform their last “un-spoilt” territories into tourism attractions risk that their remaining patches of coastal biodiversity/natural forests will be sacrificed for commercial purposes; marine, coastal and watershed areas get exposed and polluted; and already depleting biological resources further threatened.

Cruise tourism is emerging as one of the popular modes of tourism in the fastly developing third world countries, such as India, thanks to the economic boom and the surplus income of the elites. However, the rapid growth of the cruise ship industry in other parts of the world has triggered the impact assessment studies of cruising as a significant area of marine tourism research (Hall & Braithwaite, 1990; Allen 1992; Dwyer & Forsyth, 1996; Dwyer & Forsyth, 1998; Hall, 2001; Ritter, 2003; Ritter & Schafer 1998). In examining some of the cultural dimensions of the cruise ship experience, Wood (2000) argued that the global nature of the cruise market has meant that cruise ships have become examples of ‘globalisation at sea’ with corresponding
determinational, cultural theming, and simulation. Such lessons have to be carefully considered, while planning/ implementing cruise tourism in the third world. In India, it is especially true in pristine locations such as Andaman & Nicobar and Lakshadweep Islands, though India could earn more income per number of tourist. It is now well established that islands with their geographical, environmental, structural and political limitations are more vulnerable to the effects of tourism and in many cases lack the capacity of the mainland to absorb these impacts. As a result, sustainability oriented tourism development strategies assume greater importance in island tourism destinations (Kokkranikal et.al., 2003; Baldacchino, 2006).

In spite of tremendous opportunities, ET has limited potential in marine/coastal areas and cannot be universally promoted everywhere, due to various limitations that include:

- Geographical and biological factors – due to the fragility of the habitats involved (Allen, 1992; Garrod & Wilson, 2004)
- Physical factors (denser cover in protected areas vs higher visibility preferred for viewing) (Peter et.al., 2007; Poyya Moli, 2007b)
- Economical factors (only a few sites are sufficiently unique to be economically self-sufficient) (White et.al., 1997; Pedro & Albino, 2007)
- Cultural factors (danger of acculturation, if Eco-tour promoters/tourists are insensitive to the local cultural diversity, especially that of ancient cohesive tribal cultures) (Poyya Moli, 2003 & 2007b; Carla Guerro’n-Montero, 2006)
- Ownership rights and sharing of benefits – the tragedy of the common property resources and other conflicts; tourism destinations are particularly sensitive to the “tragedy of the commons” (Hardin, 1968; Briassoulis, 2002; Healy, 2006; Pedro & Albino, 2007) and conflict with polluting uses/activities (Getzner, 2002).
- Booming human populations, especially in the third world – hunger for land and its natural resources vs. Ecological integrity and sustainability of PAs? (Poyya Moli, 2007a; Stronzaa, & Gordillob, 2008)
- Conflicts between tourism development (use and user conflicts) and conservation in PAs - the tradeoffs/compromises without degrading habitat/species
diversity and livelihood security are becoming difficult due to the market forces (Wearing & Darcy 1999, Weaver, 2001; Davosa et.al., 2007; George & Poyya Moli, 2007b)

Such constraints reflect the relative immaturity of the tourism management field and should not discourage us in adopting MET, wherever it can be potentially introduced. They only help us to understand the complexity of the issues involved and the community based/ community run MET case studies would guide us to formulate viable MET ventures.

On the one hand, it is encouraging to note that throughout the world, there is a growing need for ‘greening’ the tourism industry and to ‘eco-sell’ tourism and travel, as modern tourists are seeking destinations with unspoiled natural beauty. On the contrary, unfortunately, some State Governments and tour companies in third world countries as well as some developed countries regard ET as a passing fad or a gimmick or a buzzword and consider it conveniently as a synonym with any offering resembling an “outdoor activity,” whether it takes a responsible approach to the environment or not. Often the ET label is misused by tourism operations in what is known as “green washing,” or “green cloaking” which include unregulated development of relatively undisturbed areas, appropriation of ancestral lands, or just applying traditional tourism development models under the name of eco-tourism. If ET becomes uncontrollable, large numbers of Eco-tourists will quickly constitute a mass and begin to impact on the local physical, biological and cultural environment. The resultant impacts will be no different than that of mass tourism- perhaps they can be even greater. Since the destination areas are located in Ecologically/culturally sensitive areas, the anticipated impacts would be more severe and irreversible (Weaver, 2001 & 2002b; Shepherd, 2002). A glaring example is the proposed 5 star mega “Eco-tourism” project, in Sunderbans, one of the largest mangrove forests in the world and a unique tiger habitat, in West Bengal, India, with an outlay of Rs 500 crore, entirely under the control of a single corporate giant — the Sahara group. This would have covered five Virgin Islands in the 36,000 sq.kms of water area in the Sunderbans Delta. However, the proposed areas ironically fall in the Coastal Regulation Zone (CRZ) Category I, where no construction activity for tourism is permitted! If the project was implemented (the Govt. of WB have given the green signal, but the central Government has not approved it as there was a stiff opposition
from civil society groups), the pristine habitats/ecosystems would be irreparably damaged, valuable species would be threatened and the local communities would be alienated/uprooted, thus unleashing serious Ecological, Economic and cultural impacts. However, realizing the huge Economic potentials, several other state Governments in India, are vying with each other to start such corporate based “mega ET projects”. Conditions are not far different in several other developing countries. This is in direct violation of the basic principles of ET and the very concept of protected areas – benefiting the local communities by ensuring their participation/inclusion in biodiversity conservation. Thus, putting ET on a truly sustainable path is a major challenge, requiring partnerships and cooperation between the tourism industry, governments, local people and the tourists themselves. Hence, utmost care is required while planning/implementing MET.

**FUTURE PERSPECTIVES**

In the past, the Ecotourists/ET planners were preoccupied with how the marine environment will negatively impact on them (stingrays, sharks, fire coral, etc.), not how ET can negatively impact on the fragile ecosystems that are being visited; for instance, touching coral can injure it, and it may take years to repair itself, if at all; hence, this needs to be reversed in the future. The future for MET lies in identifying/adopting sustainable and cost effective alternatives such as green infrastructure (maintaining Ecological corridors while developing the transportation/accommodation networks, using locally available renewable resources in buildings, mooring buoys instead of anchors, waste recycling, water harvesting and reuse, root zone cleaning systems, other phyto-remediation systems, Ecological sanitation ), organic and exotic foods, health and spirituality products, and revival of creative cultural industries along with diversified tourist activities that are organically interlinked to Biodiversity conservation and sustainable livelihoods. For instance, preventing anchor damage requires minimal investment or operational change, but can return significant benefits in terms of increased revenues from tourists who want to see healthy, intact reefs.

Thus, there is an urgent need for self regulation- from the ET promoters on the one hand to the Ecotourists on the other hand. This calls for the development of consistent, uniform standards of accreditation and certification to establish operational clarity in
planning and implementing marine/coastal ET. It helps ensure businesses self-defined as “ecotourism” and/or in fragile and/or protected marine/coastal ecosystems, support areas and communities promoting ET, and to meet public demand and consumer interest for those travelers who want to be as environmentally friendly as possible. ET certification is the procedure by which a third party gives written assurance that an ET product, process, service or management system conforms to specified requirements. ET accreditation is the procedure by which an authoritative body verifies the competence of those doing the ET certifying or auditing. It “certifies the certifiers.”

The desire for legitimizing force of accreditation and certification, however, has led to the development of numerous certification programs and standards that have varying degrees of quality and application. This has again meant some confusion over the validity of these systems, and whether there should not be something of an international standard such as those provided by the International Standards Organization (such as ISO 14000), or agreed upon by practitioners and advocacy bodies alike, to foster trust and consensus in accreditation and certification mechanisms. ET certification programs are intended to go beyond the “greening” of tourism industry or nature tourism. Their fundamental principles are created through broad stakeholder participation, whose eventual tenets weigh equally internal and external environmental, socio-cultural and economic impacts.

There are a number of leading global, regional national, and subnational sustainable tourism and ecotourism certification programs, (including Blue Flag, Synergy for WWF – UK, 2000; Green Globe, 2004; Green Hotel Initiative, Kiskeya Alternativa, Alianza Verde’s Green Deal, PAN Parks, Smart Voyager, and Saskatchewan’s Horizons) and new certification initiatives in Belize, Brazil, Fiji, Kenya, Peru, South Africa, Sri Lanka, Sweden, Fiji, and Vermont). These can be general in their orientation, or specific in terms of their industry sector, locale or natural area of operation (i.e. marine versus national park). These may be critically evaluated and adopted for the third world marine/coastal Ecosystems for initiating long term sustainable development. The ET industry is in a relatively early and experimental stage in the third world. Despite the wide diversity of the marine/coastal Ecosystems in the third world and the associated treasures of arts/heritage/culture, the number of Eco-tourists are low in comparison to the neighboring countries such
as Sri Lanka, Maldives, Indonesia and Philippines (Tisdell, 1997). Hence there are still opportunities to develop a comprehensive management plan based on site-specific ground realities rather than an ad hoc system of add-ons by simply copying a few selected elements from the western models of ET as it is being done now.

Over the past decade and a half, visitor management frameworks and procedures have been developed to address issues resulting from tourism and recreation use of areas. These have included the Recreation Opportunity Spectrum (ROS) (Clark & Stankey, 1979), the Tourism Opportunity Spectrum (TOS) (Butler & Waldbrook, 1991), Limits of Acceptable Change (LAC) (Stankey et al., 1985), Visitor Activities Management Planning (VAMP), and the Visitor Impact Monitoring Process (VIMP). A new framework was outlined by Boyd & Butler (1996), based on existing approaches, that incorporates and modifies ideas from the ROS and TOS to address ecotourism specifically. It is termed the Ecotourism Opportunity Spectrum (ECOS) and contains the following eight components: (1) accessibility, (2) relationship between ecotourism and other resource uses, (3) attractions in a region, (4) presence of existing tourism infrastructure, (5) level of user skill and knowledge required, (6) level of social interaction, (7) degree of acceptance of impacts and control over level of use, and (8) type of management needed to ensure the viability of areas on a long term basis. The first seven factors are set against a spectrum of ecotourism opportunities which ranges from eco-specialists to eco-generalists. The spectrum suggested by Fernie (1993) which has been adopted for the ECOS framework is very similar to other classifications of ecotourism including the ‘hard’ and ‘soft’ categorization by Wilson & Laarman (1988), Laarman & Perdue (1989) and Fennell & Eagles (1990) which was based on the interests of the tourist and the physical rigor of the experience itself. The eighth factor links decision makers and stakeholder groups that may be involved in managing a region for ecotourism. These methodologies have to be integrated into MET planning/implementation for not only sustaining the MET enterprises but also for restoring/reviving nature and culture/heritage in the destination areas.

Sustainable livelihoods analysis (SLA) has been recently used to assess the impacts of the tourism on many aspects of coastal livelihoods. By contrast, conventional analyses of tourism tend to focus on macro-economic benefits, or environmental impacts, or
negative social consequences or conservation issues. Hence, community run/based MET can be enhanced by adopting SLA. However, we need much more rigorous assessment and analysis of existing CBET projects in Marine/coastal areas, and better information on which to base decisions about whether it is the appropriate choice in any given situation. This means identifying concrete conservation and socio-economic goals, and site-specific market analysis and research on the linkages between those goals and community actions and incentives. The best conservation strategy for any given site must be developed based on a realistic, hardheaded assessment of the options, including their feasibility, cost-effectiveness, social impacts and sustainability. Financial and technical resources for conservation and for development are too scarce to waste on wishful thinking (Kiss, 2004).

All these innovative strategies can be ideally incorporated into the integrated coastal zone management (ICZM) programme. The ICZM framework coordinates the often conflicting needs of fisheries, aquaculture, forestry, industries, and tourism to ensure the sustainable use of coastal resources and conservation of critical habitats. Considering the complexity and vulnerability of the coastal zone, the recently emerging ICZM approach appears to be ideal for integration of conservation with livelihoods in tsunami hit areas (AID Environment, 2004). ICZM is a dynamic process in which a coordinated strategy is developed and implemented for the allocation of environmental, socio-cultural, and sustainable multiple uses of the coastal zone. ICZM is also a continuous, interactive, adaptive, participatory, consensus-building process comprised of a related set of tasks, all of which must be carried out simultaneously to achieve a desired set of goals and objectives for planning/implementing MET (White, Barker & Tantrigama, 1997; Jennings, 2004; Noronha, 2004; Cicin-Saina & Belfioreb, 2005; Ming Gu & Poh Poh Wonga, 2008).

While MET is emerging as a potential choice for ensuring sustainable development in the coastal regions of the third world, the political will and administrative support (as exemplified by the establishment of separate departments of ET and appropriate regulations) required for evolving appropriate policy/planning for MET, is becoming sinqua none. The tremendous demand for MET in the third world has not been matched with official efforts to adequately plan, implement and monitor developments through appropriate administrative and legal mechanisms and policy instruments. As a consequence, the infrastructure for research,
education, impact assessments, control regulations and risk containment are woefully deficient or non-existent. This requires coordinated efforts of all the relevant stake holders by ensuring active participation, transparency and accountability. Thus, training and capacity building for all the relevant stake holders for ET in general (Poyya Moli, 2007a) and MET in particular is emerging as a priority area in the coastal regions of the third world.

REFERENCES


