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INTRODUCTION

Tourism is one of the fastest growing important industries in both developed and developing countries as a tool for economic activity and development. Developing countries see tourism as the opportunity to earn scarce foreign exchange and to generate employment among skilled workers. Hospitality industries often pay little attention to their environmental responsibilities. Solid waste is a key concern in the hospitality industry. Typically, a hotel guest can produce 1 kg of waste per day that accumulates to thousands of tonnes of waste annually. Many hotel operators have very little interest in reducing, minimizing and/or

recycling waste, believing that such activities are too expensive and time-consuming. Over 90% of solid wastes are disposed of in landfill sites. Sanitary landfilling is the main method used in the West but crude dumping is very common in developing countries.

SCENARIO ACROSS THE WORLD

Many studies such as household level waste totals were conducted to obtain data on waste arising in the midwest USA. General issues of SWM were regarding collection of data and other statistics at the household level in the UK. Solid waste disposal practices and their adverse impacts were studied a decade before important studies in the USA. Major concerns in the USA were landfilling and consequent contamination of ground water and use of incinerators and resultant increasing air pollution. Increasing demands for suitable land for the landfill option for SWM led people to think over some other alternatives. With the Environmental Protection Act of 1990, emphasis was put on legislative aspects of solid waste and its recycling. Many of the countries will have to suffer from existing landfilling practices in the near future. By 2010 almost all of England will be suffering from a landfill shortage, and it is in response to this scenario that the Government has begun to promote the development and use of alternative strategies, such as the recycling credit scheme and the landfill levy. In Italy, Iran, Istanbul, and Taiwan similar studies were also conducted which showed similar arising adverse impacts due to landfilling and land crisis in future. At the same time, recycling has not received much attention even in developed nations. At present some 20 million t of household refuse is produced each year in England and Wales, yet only 2% is recycled.



In a nutshell, the most important aspects of solid waste management in the developing countries are related to problems of

- Effective shortage in generating premises,
- Collection, and
- Efficient transportation of the waste to disposal sites

In Indian Himalaya in particular is suffering from,

- A lack of proper disposal sites except riverbeds or valleys where maximum human settlements occur,
- Lack of coordination between related research institutions and administration, and
- Inadequate SWM funding

Waste generation and disposal cannot be studied in isolation and the environmental problems associated with pollution caused by uncontrolled dumping ultimately led to significant changes in the perception of waste and waste management practices. Thus, the waste managers are adopting integrated, preventive waste management strategies, emphasising minimizing waste at source (i.e. the so-called clean technologies) and reclamation and recycling. A new code of practice, or hierarchy of action, is thus gradually replacing the old preoccupation with 'end-of-pipe' technologies as a means for controlling pollution. The new code of practice comprises:

- Cleaner production i.e. adapting products and processes so as to conserve raw materials and reduce the use of toxic substances and quantity and toxicity of waste products
- Finding ways of recycling wastes and pollutants back into the production cycle

- If recycling is not possible, then selection of an appropriate and environmentally sound treatment method that will destroy the hazardous characteristics of the waste materials
- To store remaining wastes

ON THE POSITIVE SIDE, TOURISM CAN:

- Provide a growing source of opportunities for enterprise development and employment creation as well as stimulating investment and support for local services, even in quite remote communities.
- Bring tangible economic value to natural and cultural resources. This can result in direct income from visitor spending for their conservation, and an increase in support for conservation from local communities.
- Be a force for inter-cultural understanding and peace.

CONVERSELY, TOURISM CAN:

- Place direct pressure on fragile ecosystems causing degradation of the physical environment and disruption to wildlife.
- Exert considerable pressure on host communities and lead to dislocation of traditional societies.
- Compete for the use of scarce resources, notably land and water.
- Be a significant contributor to local and global pollution.
- Be a vulnerable and unstable source of income, as it is often very sensitive to actual or perceived changes to the environmental and social conditions of destinations.



THUS, SUSTAINABLE TOURISM SHOULD:

- 1) Make optimal use of environmental resources that constitute a key element in tourism development, maintaining essential ecological processes and helping to conserve natural resources and biodiversity.
- 2) Respect the socio-cultural authenticity of host communities, conserve their built and living cultural heritage and traditional values, and contribute to inter-cultural understanding and tolerance.
- 3) Ensure viable, long-term economic operations, providing socio-economic benefits to all stakeholders that are fairly distributed, including stable employment and income-earning opportunities and social services to host communities, and contributing to poverty alleviation.

The importance of tourism to sustainable development and of the need for tourism to integrate sustainability principles has been increasingly recognized in international fora, and echoed in policy statements.

- 1) *The UN Commission on Sustainable Development, 7th session, 1999*
- 2) *The WTO Global Code of Ethics for Tourism, 1999*
- 3) *Convention on Biological Diversity, Guidelines on Biodiversity and Tourism Development, 2003*
- 4) *Quebec Declaration on Ecotourism, 2002*
- 5) *World Summit on Sustainable Development, Johannesburg, 2002*

THE TWELVE AIMS FOR AN AGENDA FOR SUSTAINABLE TOURISM ARE:

- 1) **Economic Viability:** To ensure the viability and competitiveness of tourism destinations and enterprises, so that they are able to continue to prosper and deliver benefits in the long term.
- 2) **Local Prosperity:** To maximize the contribution of tourism to the economic prosperity of the host destination, including the proportion of visitor spending that is retained locally.
- 3) **Employment Quality:** To strengthen the number and quality of local jobs created and supported by tourism, including the level of pay, conditions of service and availability to all without discrimination by gender, race, disability or in other ways.
- 4) **Social Equity:** To seek a widespread and fair distribution of economic and social benefits from tourism throughout the recipient community, including improving opportunities, income and services available to the poor.
- 5) **Visitor Fulfilment:** To provide a safe, satisfying and fulfilling experience for visitors, available to all without discrimination by gender, race, disability or in other ways.
- 6) **Local Control:** To engage and empower local communities in planning and decision making about the management and future development of tourism in their area, in consultation with other stakeholders.



- 7) **Community Wellbeing:** To maintain and strengthen the quality of life in local communities, including social structures and access to resources, amenities and life support systems, avoiding any form of social degradation or exploitation.
- 8) **Cultural Richness:** To respect and enhance the historic heritage, authentic culture, traditions and distinctiveness of host communities.
- 9) **Physical Integrity:** To maintain and enhance the quality of landscapes, both urban and rural, and avoid the physical and visual degradation of the environment.
- 10) **Biological Diversity:** To support the conservation of natural areas, habitats and wildlife, and minimize damage to them.
- 11) **Resource Efficiency:** To minimize the use of scarce and non-renewable resources in the development and operation of tourism facilities and services.
- 12) **Environmental Purity:** To minimize the pollution of air, water

WASTE PREVENTION STRATEGIES

1. Changing waste behaviour of citizens

Focusing on the waste behaviour of tourists, awareness campaigns can inform about what they can do to prevent waste (e.g. use public drinking water fountains to refill empty plastic bottles, use reusable bags). Awareness campaigns aimed at changing waste behaviour of tourists need to be implemented at municipality level, but the

distribution of information can be carried out mainly via tourist accommodation establishments or other tourist information points.

2. Composting activities at the point of waste generation

On-site composting could be implemented at hotel level and for other establishments providing food and beverage to tourists to catch the organic waste produced by tourists. Information campaigns on composting as well as the provision of technical composters could be targeted mainly to bigger accommodation establishments where the compost later can be used on the hotel garden as fertiliser.

3. Eco-events

The “green” organisation of events may affect the total amount of waste produced by tourists. Waste of bigger events like sport or music events attracting thousands of tourists can be highly influenced by green events, but also small events, even meetings, can be oriented according the green event concept. Bigger Green Events could be implemented at municipal level, while conferences or seminars can be organised as green event on hotel level.

4. Promotion of re-use activities

Activities aiming at re-using, which potentially could be implemented in URBAN WASTE, could include: Swap facilities for products the majority of tourists might only need temporarily such as travel guidebooks, city maps, bathing and beach gear such as air mattresses, snorkelling gear, etc. but also the use of reusable dishes in tourist establishments instead of one way dishes and the donation of reusable equipment like



furniture, TV, minibar or computers from hotels to people in need or social organisations could be allocated to this category. Depending on the specific activity, the implementation level would be either the municipality or the hotel area.

5. Promotion of tap water for drinking

Through the installation of public drinking water fountains (and accompanying information measures) tourists could be encouraged to refill their empty plastic drinking bottles, thus, reducing PET-bottles waste. Responsibility of implementation level lays at the municipality.

6. Reduction of food waste

Reducing food waste resulting from tourist activities is useful as food and beverage provision to tourists was identified to be one of the main hotspots for waste generation by touristic processes. The provision of doggy bag systems as well as the reduction of food waste in the kitchen can be emphasised. Measures aiming at reducing food waste from tourism are likely to be implemented at restaurants, hotels etc. The organisation of information and guidelines for the food service sector at municipality level assists the implementation of food waste prevention.

7. Resource consciousness in procurement

Within the scope of URBAN WASTE, it seems possible to promote resource consciousness in procurement amongst tourist accommodation establishments as well as food and beverage providers for tourists. Partially this could be reached by promoting environmental certification labels/schemes.

8. Awareness-raising to change waste separation behaviour (of citizens)

Information on correct waste separation could be adapted to create an easily understandable "waste guide" for tourists. Level of implementation: "Waste guides" for tourists etc. could be part of the information package tourists receive in their accommodation establishment.

9. Biogas from organic waste

The separate collection of organic waste/food waste from establishments providing food and drink to tourists (restaurants, hotels) to use it for biogas production could be an option to deal with organic/food waste from tourism.

10. Increase waste separation in the business community

Especially information about multifunctional waste solutions could be a support for hotels that are not concerned with waste management issues so far. Information campaigns could be targeted for example to all tourist establishments in a given area. Legal regulations regarding waste management or incentive schemes could have the same target group/area.

11. Provision of better waste separation options for citizens

Having many public bins for different waste fractions available and visible might be an incentive also for tourists to do proper waste separation. Such measures would have to be implemented on municipality level, but the idea of designing an "attractive" and "easy to understand" waste collection system could also be adopted for hotels as well. Especially separate collection of food waste can be implemented easily at least at the hotel



and restaurant level. Additional to conventional waste management and prevention issues

12. Eco-labels

Similar environmental certifications have been identified to be useful to solve the problem resulting from tourist waste generation. Eco-labels provide minimum standards for sustainability in hotel establishments including indicators for waste management performance like reusable dinnerware and cutlery, refillable toiletry dispensers or on-site composting or composting

Also **international best practice** examples focus on Eco-tourism certification scheme and labelling. A summary of several sustainability standards and eco-tourism labels of European countries is given in the report focussing on included waste management requirements like facilitating waste separation by guests, separate collection of waste, avoiding of disposable products and single-dose food packaging.

CONCLUSION

A sustainable approach to tourism development and management is all about planning for the long term, working together, checking on outcomes and adapting to change. Effective communication, tourism policies and effective partnerships within local destinations should be developed. Participatory structures through which governments could work with other stakeholders to plan, develop and manage tourism in a sustainable manner should also be established.

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