The need for greater sustainability in tourism services and activities, especially in eco-tourism, is already widely recognised at all levels. Moreover, there are many and varied planning and development methodologies, as well as tourism management techniques that make it possible to attain higher levels of sustainability and to increase them gradually. Such methodologies and techniques can be complemented by voluntary certification systems for tourism services and the companies that provide them.

Certifications, eco-labels and eco-rating basically serve three purposes, namely:

- To stimulate tourism service providers to introduce improvements in their operations, aimed at greater environmental, economic, and social sustainability, by providing incentives and technical assistance to do so;
- To differentiate and distinguish tourism products and services that meet environmental, social, and economic standards beyond the level required by the legislation in force;
- To orient consumers with regard to the sustainability characteristics of the tourism services available on the market.

Additionally, certifications, eco-labels and eco-rating serve to promote and stimulate higher levels of sustainability and quality throughout the tourism sector, aside from enhancing the image of certified companies, with the commercial benefits that such enhancement brings.

Once such method of eco-rating was developed by the Expert System Rating Group (ESRG) (http://esrg.upm.edu.my) in Universiti Putra Malaysia under the project leadership of Professor Dr Ir Mohamed Daud. The project was...
funded by the Ministry of Science and Technology Malaysia (MOSTE) under the Intensified Research in Priority Area (IRPA) funding.

The main objective of the eco-rating developed is to:
- design, develop, test and implement an expert system to rate the eco-tourism components consistently and reliably based on safety, health and environment.

One of the main objectives of the eco-rating developed is to design, develop, test and implement an expert system to rate the eco-tourism components consistently and reliably based on safety, health and environment.

- create an eco-tourism database in an information sharing platform, and
- extract the opinions of the domain expert, existing statistics and literature and field survey of people's perception in order to produce a set of rules to enable the expert system to be used to make intelligent decision.

For each eco-tourism site included in the database, the state and the district where the site is located is recorded. The types of attractions and tourism activities available at the site are also put into the database. A list of accommodation available within the district where an eco-tourism site is located is also incorporated into the database, complete with the name, type, location, number of rooms available, and address of the accommodation.

Even though there is a need in standardisation of tourism statistics, Malaysia, like many other countries, still does not have standardised eco-tourism statistics and databases. The eco-rating database could be used as a starting point towards this goal.

The eco-rating homepage begins with the picture of the South East Asia region with a Malaysian map positioned at the centre of the page. After clicking on the Malaysian map, a map of the states in Malaysia, together with major highways are shown. The key South East Asia map will continue to be shown on the right side of the screen as a reminder of the location of Malaysia in the region.

Next, by clicking on the picture or at the name of the state, the system will show a map of the particular state together with the name of the districts within the state. The types of eco-tourism sites available in the state are shown (Figure 1).

A second key map shows the location of the state within Malaysia. List of all eco-tourism sites available in any district in Malaysia is also been shown. A searching facility to access this database is also provided in the system.

A. The second module in the system is the eco-tourism definition module. This module will determine if a tourist site could be categorised as an eco-tourism site. A sample of the screen shot is shown in Figure 2.

B. Help screen frames are also provided for the user. A specific frame is also developed for the purpose of explaining in a greater detail the 25-point Malaysian eco-tourism guideline. Figure 3 shows this particular frame.

A proposal to include a specific tourist interest into the eco-tourism-site database can be done by anybody. The person has to answer questions provided in the modules. Once the site satisfies the eco-tourism requirement, the site will be included in the database. Before the person can use the module, he/she has to register with the system, and send answers to the questions and ratings given by him/her about the tourist site is recorded and made available to public.

C. The heart of the system is the eco-tourism-site rating module. Most of the knowledge
gained from field studies and domain experts is incorporated into this module.

An eco-tourism site could be rated into one of the five levels, i.e.: from ECO-1 (the lowest) to ECO-5 (the highest). Three groups of people can use this module to rate a site, i.e.:

- a person who had visited the site,
- the operator for the site or a moderator,
- an eco-tourism auditor.

A person who had visited a particular eco-tourism site would only have to complete one simple frame in order to rate the site. He could give ratings of 1 (the lowest) to 5 (the highest) each to the

- environment,
- quality and services, and
- overall rating (Figure 4).

The system would average out all the votes. The detailed information of the last five persons who cast the votes, together with their IP and e-mail addresses would be made available to the public, for the public to contact them for additional information and explanation about the site.

The second group of people who can rate the site is the group that consists of either the operator of the eco-tourism site or a moderator. A moderator is a man who could be considered as a professional or one who has a profound knowledge on eco-tourism. A person from this group has to register with the system before he is allowed to rate an eco-tourism site.

A person from this group would be asked detailed questions about the eco-tourism site (Figure 5). Help screens are provided to help the person to

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answer the questions. The system will then calculate the grade based on the answer given by the person.

In addition, other factors taken into consideration for the eco-rating is the type of activity conducted in the site. If the activity is helpful to promote the eco-tourism concept, a bonus point is added to the score. On the other hand if the activity is detrimental to the eco-tourism concept, some penalty point is deducted from the score.

The scores given by people from this group is then averaged out and shown to the public. The information about the last five persons who rated the eco-tourism site is also shown to the public (Figure 6). The public could access the detailed answers given by them.

The third group of people who can rate an eco-tourism site are eco-tourism auditors. He or she has to answer identical questions given to a person from the second group. The difference between them is that in order to be an auditor a person has to pass a certain criteria stated by an eco-tourism governing or professional body.

The rating given by the eco-rating by ESRG is very transparent. A prospective visitor can make his own judgement by referring to ratings from the three groups of people. All the parameters and coefficient (weights) incorporated into the system can easily be updated to incorporate new relevant knowledge on eco-tourism.

(Next issue)
Conclusion of the series with an analysis of the future of the eco-tourism industry in Malaysia as far as certification and rating are concerned in order to assist the enforcement of a sustainable approach in eco-tourism site management.)

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The Equine Group: GOING THE EXTRA MILE

Tribute to Mahathir: Businessmen's Best Friend

Samsung Electronics: On The Rise

Eastman Chemical Company: Moving The Market

Self Development: Need More Power?