



## II. LITERATURE REVIEW

### 2.1. Coastal Zone

Simonds (1978) viewed coastal zone as the area where land and ocean meet. It is characterized by the wave that roll in to break upon sandy beaches, and the wind currents strong, as well as the sufficient supply of sands. A rise of dunes may be formed to the landward, and in rare cases these may tower to a height of 500 feet above mean sea level. The arrangement of beaches, dunes, and the associated tidal wetlands has been perfectly formed by nature to serve as a resilient buffer against the onslaught of the wind and sea.

Sain and Knecht (1998) also defined coastal zone as the place where the waters of the seas meets the land, which is indeed the unique place in global geography. What is more, the coasts are unique in a very real economic sense as sites for port and harbor facilities, as well as the most productive and richest habitats on earth as resulting bounty in fishes and other marine life. They are also highly valued and greatly attractive as sites for resorts and as vacation destinations, as well as valuable in many other ways.

But all those values can be easily diminished or even lost if the coasts are being overused in any type, as there are definable limits to the amount of use to which a beach can be subjected (Simonds, 1978). The presence of large and growing populations in the world's coastal areas creates major problems, especially in developing countries, where more people in the coastal zones means more pollution of coastal waters, more pressure on nearby natural resources, and more pressure on fishery resources (Sain and Knecht, 1998).

Obviously, the tendency of ever greater numbers of population migrating to the coastal areas and also faster growing tourism industry based on the resources have been causing serious pressure on these areas that could put the value and productivity of them at risk. Unless effective step to manage these areas are taken soon (Sain and Knecht, 1998). More specific, Simonds (1978) argued a guideline in developing coastal beaches and wetlands, where all land below the natural mean high water line should be in public ownership. A building setback line from the beach should extend to the landward toe of the primary dune, where one exists, or to the limits of highly productive or essential stabilizing growth. Within conservation areas limited development may occur as long as the more important landscape features are protected (Figure 2).

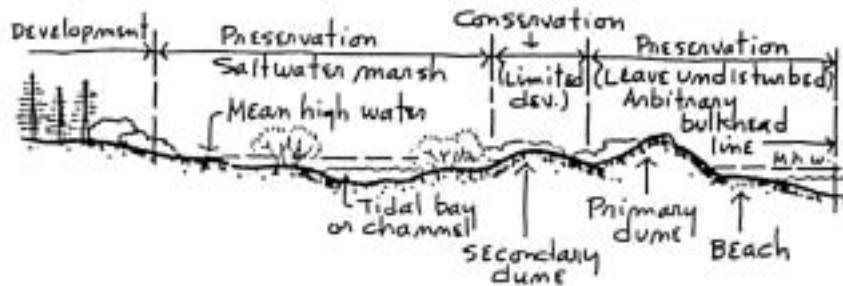


Figure 2. A development guideline for coastal beaches (Source: Simonds, 1978)

## 2.2. Tourism

Tourism is often associated with travel for pleasure. But actually it is not all about the pleasure things, though nowadays tourism term always use as synonymous as travel, as what Gunn (1994) has cited that tourism is defined as all travel with the exception of commuting. More over, he also argued the most appropriate definition of tourism is that tourism is the temporary movement of



people to destinations outside their normal places of work and residence, the activities undertaken during their stay in those destinations, and the facilities created to cater to their need. Tourism implies travel from one place to another. Tourism can also be viewed as a system of generating areas connected to destinations by routes traveled between these two sets of locations (Boniface and Cooper in Gunn, 1994).

The purpose of traveling in tourism can be varied. It is explained with another definition of tourism proposed by World Tourism Organization and UN Statistical Commission in Holden (2000) that tourism comprises the activities of persons traveling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business or other purposes. It is no doubt that tourism for leisure is the most usual form of tourism, but there are still many other types of tourism. It is endorsed by Davidson in Holden (2000) that recreation or leisure is the main type of tourism, which includes travel for holidays, sports, cultural events, and visiting friends and relatives, but people also travel for business, study or education, religious and health purposes.

The main reason of why people visiting one place is that there is such certain magnetism about that place. Gunn (1994) noted that the reasons are grounded in the destination's resources, natural and cultural, and the attractions that relate to them. Generally the term 'natural resources' refers to five basic natural features: waters, topographic changes, vegetations, wildlife, and climate. Natural resources are very critical in supporting outdoor recreation that has been a major travel purpose for many years. Cultural resources include all resources except those that can be called natural. There are several features that are

included in this category are prehistoric sites, historic sites, places of ethnicity, lore, and education; industries, trade centers, and galleries; and sites important for entertainment, health, sports, and religion. Both of these two categories of resources may also be used to classify attractions that are found in a tourist destination place. Furthermore, Smith (1989) categorized the attractive factors in a tourism site in five main categories, which are natural factors, cultural and social factors, historical factors, recreational factors, and tourism infrastructure factors.

The attractions of a destination constitute the most powerful component of the supply side of tourism. Attractions are those developed locations that are planned and managed for visitor interest, activity, and enjoyment (Gunn, 1994). Kelly (1998) concurs that the primary type of the attractions in a tourist destination is the one that is mostly emphasized in tourism product which is being marketed and delivered, such as ecotourism, nature tourism, adventure tourism, getaway and stay, and cultural tourism.

### 2.3. Tourism Landscape Planning

Gunn (1994) noted that tourism cannot be planned without understanding the interrelationships among the several parts of the supply side, which is commonly associated with tourism site/product, especially as they relate to market demand that is associated with population or visitors. In order to satisfy this market demand, a variety of development and services as the supply side must be well provided. How well this supply side matches the market is the key to reach the ultimate in correct tourism development.

Gunn (1994) also viewed supply as composed of four components: transportation, attractions, services and information and promotion, which are related one to another. Tourism planning should identify opportunities in all five components of supply (Figure 3).

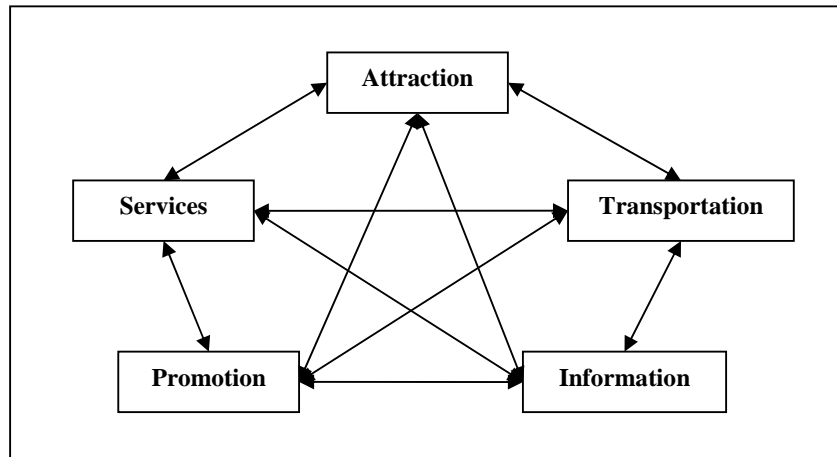


Figure 3. Functioning Components of Supply (Source: Gunn, 1994)

Moreover, Kelly (1998) defined each of those five components in more details. Transportation has to be considered on two levels. First is the linkage between the tourists' place of origin and their destination; the second is the destination region's transportation network. Attractions, which should be explicitly expanded to include events, function in two ways in successful tourism planning. One is they are the magnets that often entice a person to travel to a particular destination, that dreamed experience, and second they are part of the real tourism experience of a destination region. Service is the other significant experience generating component of tourism. The focus of this component is accommodation, and food and beverage establishments and their personnel. The last structural component is information and promotion. It is important to provide each tourist market segment with information and promotional materials that

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create the experience expectation and bring tourists to a destination. Another aspect of these two components is providing good signage in the destination region to ease and direct movement of people.

Gunn (1994) referred that a good tourism planning can provide betterment of tourism that can enhance visitor satisfactions, improve the tourism economy, stop the resource degradation and protect the resource assets, as well as enhance the social and economic life of community integrated in the area. Kelly (1998) emphasized that a successful tourism plan should take community vision and community involvement that reflects the willingness of local residents to go the cost necessary to support tourism in their living space. He also implied that implementation and action plans are a must in tourism planning in order to create coordination among people and organizations in a destination area. Monitoring and evaluation are important to measure the success of the plan and to modify it if it is not working out. It is unnecessary to measure everything about a plan; select several key indicators and work with those over time.

In order to achieve a certain desired goals, tourism planning needs to be approached at three different scales. The range of scale in tourism planning could be from site specific physical plans to intermediary community and regional destination plans to national policy plans. The site scale planning is an individual property development. On the other hand, the destination planning works on a destination zone that is formed from several primary elements including the community, attractions, and traveler access and linkage between the communities and attractions within the area with better understood of tourism functions. The

regional planning is needed when the greatest potential for a region or nation are desired to determine (Gunn, 1994, 1997)

## 2.4. Visual Quality

Laurie (1975) defined landscape evaluation as the comparative relationships between two or more landscapes in terms of assessments of visual quality. In this context, assessments are the process of recording visual quality through an observer's aesthetic appreciation of intrinsic visual qualities or characteristics within the landscape. Essentially, visual quality evaluation is but one form of sensory perception of landscape and only one aspect of comprehensive landscape evaluation for regional planning purposes.

There is another term used to express the visual quality of a landscape: landscape aesthetics or landscape scenic beauty. As Porteous (1996) referred to aesthetic is clearly of vital importance to the human sense of well-being and it involves the art of discrimination of making judgments. Daniel and Boster (1976) used scenic beauty in expressing human judgment of the environment visually in response to his perception of a landscape. Moreover, they cited that landscape scenic beauty is one of the most important of our natural resources.

Laurie (1975) cited that the need of visual quality in landscape evaluation is commonly accepted as a product of the increased pressure of landscape changes and of a growing need to protect the scenic qualities of the landscape as a resource in limited supply. Evaluation in landscape may be either purely philosophic and aesthetic; or they may be quantitative and use applied measurement techniques in

the fields of geography, planning, environmental psychology, economics, and landscape design.

In assessing landscape aesthetics are not just a matter of qualitative assessment, but it also requires quantitative assessment, as Fabos has referred in Porteous (1996) that the familiar, vague, and subjective feelings about beauty, expressed with emotion alone, are not enough. Quantitative assessment techniques will ultimately provide that needed scientific rigor on which a new era of planning and design can expand.

Daniel and Boster (1976) applied a method in measuring landscape visual quality, namely Scenic Beauty Estimation (SBE). The general procedure of this method is starting with determining the vantage point or observer position, taking a photograph on selected landscape features or components, selecting photos that should represent a particular landscape feature or component, and showing the photographic representations to observers and obtaining their judgments.

## 2.5. Interpretation of Tourism Site

Alderson and Low (1996) cited the term of interpretation as both a program and an activity. The program establishes a set of objectives for the things we want our visitor to understand, meanwhile the activity has to do with the skills and techniques by which that understanding is created. Essentially, how well the visitor can understand the important meanings and relationships of the site they visit depends on the program and the activity that together make up the interpretation.



Veverka implied definition of interpretation that is defined as a communication process designed to reveal meanings and relationships of our cultural and natural resources to the public, through first hand experiences with objects, artifacts, landscapes, or sites<sup>\*)</sup>. Knudson *et.al.* (1995) emphasized this definition by arguing that interpretation helps people to gain a sense of place, to respond to the beauty of their environment, and the significance of their cultural surroundings. How well the visitor understands the important meanings and relationships of the site become the final product of the interpretive effort.

Interpretation is not just information that in many cases only presents answers to questions that visitors are not asking. Interpretive communication takes the information by transforming and translating the information into the language of the visitor. To be truly "interpretive", the message (interpretive panel, brochure, etc.) must follow the following criteria:

- The communication must first provoke the attention or curiosity of the audience.
- Relate to the everyday life of the visitor – tell them "why they need to know this information".
- Reveal the key concepts of the message or story through a unique viewpoint – save the surprise ending or answer for last.
- Address the Whole – illustrate to the visitor how each individual stop along the byway relates to the larger main interpretive theme or educational concept of the total byway experience or story.

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<sup>\*)</sup> [http:// www.heritageinterp.com](http://www.heritageinterp.com)

- Has Message Unity – the design and presentation of the interpretive media along the total byway will have a uniformed themed look (design, fonts, historic dating, etc.).

## 2.6. Geographic Information System

Geographic information system (GIS) is a science of spatial information based on convergence of the technological fields and conventional disciplines. It acts as an inventory tool, analysis tool, and management tool. It essentially helps in transformation of the discrete raw data via overlays into information for decision making process (Krishna *et al*, 2000).

Geographic Information System is a very powerful tool in combination of different types of data. It is defined as a powerful set of tools for collecting, storing, retrieving at will, transforming and displaying spatial data from a real world for a particular set of purpose. GIS allows the combination of different kinds of data using models. GIS allows for the combination of the different kinds of spatial data, with non-spatial data, attribute data and use them as useful information in the various stages of spatial analysis (Gupta, 2000). Gunn (1994) concurs that GIS is a very helpful tools in tourism planning process, as it can assure that the speed and accuracy of performing computer mapping and spatial analysis are improved greatly.

There are three important stages of working with GIS, as referred from de By (2000):

- Data Entry, which is the early stage to collecting data about the study and get them prepared to be entered into the system.

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- Data Analysis; which is the middle stage, while within this stage, the data is reviewed to discover some desired information or solution.
- Data Presentation; the final stage in which the results of earlier analysis are presented in appropriate way.

GIS provides a tool for effective and efficient storage and manipulation of remotely sensed data and other spatial and non-spatial data types for both scientific management and policy oriented information. This can be used to facilitate measurement, mapping, monitoring and modeling of variety of data types related to natural phenomenon. GIS can play a role at the following levels (Banger, 2000):

- **National level:**

At national level, GIS can provide useful information at such a general level. The objective is to give an inventory of many kind of specific information within the areas affected or threatened for an entire country. Mapping scales will be in order of 1:1,000,000 or smaller.

- **Regional level:**

At regional level the use of GIS is intended for planner in the early phase of regional development projects or large engineering projects. GIS can be utilized more for analysis at this scale, although the type of analysis will mostly be qualitative, due to the lack of detailed information. But it can be used to investigate the potential area on the development of rural, urban or infrastructural projects. The areas to be investigated are large, generally several thousands or square kilometer, and the required details of the input

data is still rather low. Typical mapping scales for this level are between 1:100,000 and 1:1,000,000.

- **Medium level:**

At this level GIS can be used for the pre-feasibility study of developmental management programs, at all inter-municipal or district level. Typical mapping scale is in the order of 1:25,000 - 1:100,000. Slope information at this scale is sufficiently detailed to generate Digital Elevation Models, and derivative products such as slope maps.

- **Local level:**

The level of application is typically that of a municipality. The use of GIS at this level is intended for planner to formulate programs at feasibility levels. Typical mapping scales are 1:5,000 - 1:25,000. The details of information will be high, including for example cadastral information. The size of area under study is in the order of several tenths of square kilometer, indicating the probability of occurrence for mapping units, with areas down to one hectare or less.

- **Site investigation scale:**

At site investigation scale GIS is used in the planning and design of engineering structure and in detail engineering measures to address the management action on site. Typical mapping scale are 1:2,000 or larger. Nearly all of the data is of a quantitative nature. GIS is basically used for the data management, and not for data analysis, since mostly external deterministic models are used for that, as 3D GIS can be of great use at this level.

## 2.7. Analytical Hierarchy Process

Analytical hierarchy process (AHP) is a systematic method for comparing a list of objectives or alternatives. It is a comprehensive, logical, and structured framework that allows improving understanding of complex decisions by decomposing the problem in a hierarchical structure. The method will be performed based on the three principles of AHP<sup>\*)</sup>:

- Decomposition of the decision problem
- Comparative judgment of the elements
- Synthesis of the priorities.

The incorporation of all relevant decision criteria, and their pair wise comparison allows the decision maker to determine the trade-offs among objectives. This procedure recognizes and incorporates the knowledge and expertise of the participants. It makes use of their subjective judgments, which is a particularly important feature for decisions to be made on a poor information base<sup>\*)</sup>.

In the AHP, elements of a problem are compared in pairs with respect to their relative impact on a property they share in common. A 1–9 scale is used in the comparison, with 1 for representing the comparison value if the two objectives are equal in importance, 3 if an element is weakly more important than the other one, 5 if the element is strongly more important than the other one, 7 if it is very strongly more important than the other one, and 9 is for absolutely more important than the other. The values of 2, 4, 6, and 8 will represent the scale of intermediate values between two adjacent judgments (Saaty and Kearns, 1985). A hierarchical

<sup>\*)</sup> <http://www.icaen.uiowa.edu>



structure is used to illustrate the problem. The hierarchy is structured from the top (Level 1: the goal of the study), through intermediate levels (Level 2: criteria on which subsequent levels depend) to the lowest level, which is usually a list of alternatives (Saaty and Kearns, 1985).

## 2.8. Coastal Area of Parangtritis

Based on the local legend, Parangtritis Coastal Area is believed to be founded at the same time as the arrival of Dipokusumo, a fugitive from the Empire of Majapahit. The term of Parangtritis is believed to be taken from Javanese terms of *Parang tumaritis*, which mean dropping water (*tumaritis*) that comes from top of the stone (*parang*), which is located near the meditation place of Dipokusumo (Surono and Soelist, 1997).

Located about 27 km to the south of Yogyakarta, Parangtritis Beach has long been famous, not only as a beach resort where sand-dunes, sandy beaches and rocky cliffs meet, but also as a historical place closely linked to the mysterious legend of the Queen of the South Sea, "Kanjeng Ratu Kidul". Together with her confidant, the feared Nyai or Nyi Roro Kidul, the ever youthful and beautiful queen, Kanjeng Ratu Kidul reigns over sea-nymphs and spirits. According to legend, any person wearing clothing colored green will be lure into the sea by the Queen and to their fate - a superstition firmly entrenched in the minds of all Javanese; even as far North as Jakarta (Birchall, 1997).

The legend of Nyi Roro Kidul herself is very popular. Before turning into a nymph, Nyai Roro Kidul was a young princess named Dewi Kandita, the

daughter of King Mundangwangi and his first wife<sup>\*)</sup>. The popularity of Dewi Kandita and her mother Dewi Rembulan was beyond doubt. They were known for their beauty, kindness and friendliness, and people loved them. However, the misery of their lives began when Dewi Mutiara, another wife of King Mundangwangi, became green with envy and grew ambitions to become the first wife, thereby deserving full affection and attention from the king.

Dewi Mutiara's dream came true when one day she bore the son that the king had long been yearning for. Through the assistance of a witch, Dewi Mutiara made the king's wives Dewi Rembulan and Dewi Kandita suffer from 'strange' disease, with their bodies covered with scabies that created the odor of fish. The disease led them to be sent into exile in the forest where later Dewi Rembulan died. After a long, hard and helpless journey, the scabies-covered Dewi Kandita eventually arrived at a beach where she met a young, handsome man who promised to cure her illness. At the request of the young man, Dewi Kandita chased after him as he ran along the beach. When she reached the water, the man disappeared and, to her surprise, all the scabies had disappeared but, strangely, she could not move her legs. Half her body, from the waist down, had turned into the body of a fish. Since then she became a sea-nymph, and the locals believe that Nyi Roro Kidul is the manifestation of Dewi Kandita.

In some discussion of historical legend of Mataram Empire is always related to the trilogy of Parangtritis Beach, Mount Merapi, and Yogyakarta Palace (Kraton). It is believed there is a south axis connecting Mount Merapi, the Kraton and Parangtritis Beach. The legends say that Kanjeng Ratu Kidul was

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<sup>\*)</sup> [http://www.indo.com/featured\\_article/parangtritis.html](http://www.indo.com/featured_article/parangtritis.html)



married to one of the Mataram Monarchs, Panembahan Senopati, a ruler of the mighty Mataram Kingdom, whom she visited and enjoyed his company on certain occasions. The Western section of Parangtritis beach - Parangkusumo Beach - is believed to have been the meeting place between the two mighty rulers; that of the sea and of the land (Birchall, 2002). Related to this, 'Labuhan' is performed there every year, on the 30<sup>th</sup> day of the Javanese month of 'Rejeb'. It is the ceremony of offerings given to Kanjeng Ratu Kidul that consist of fingernail cuttings and hair of the Sultan of Yogyakarta, food and clothing - all cast into the sea in the hope that the Sultan and the people of Yogyakarta will have continuous peace and prosperity. The same ceremony is held on top of Mount Merapi and Lawu (Birchall, 2002).

According to legend, volcanic activity also occurred at Parangkusumo Beach. This resulted in a formation of rocks supposedly where the Sultan of Yogyakarta and Kajeng Ratu Kidul met to discuss the well-being of the people of Yogyakarta - and of their love for each other. Upon this formation of rock was built a small rest house. On two special nights - Friday and Tuesday Kliwon according to the Javanese calendar - people come from all over to meditate in the spiritual ambience. Most nights, people can be found meditating at this small rest place - a place of peace and harmony with the sea and land (Birchall, 2002).