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A PROPOSED FRAMEWORK FOR NATURE-BASED TOURISM DESTINATIONS EVALUATION

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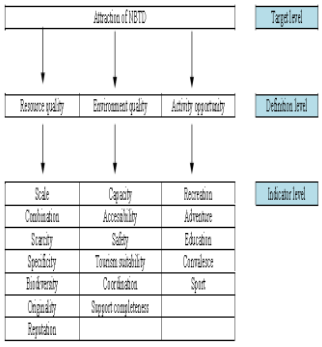
Graphical abstract



Abstract

To date, nature-based scholars have been employing a diverse range of attraction evaluation methods mainly derived from the perspective of public perception, policy instrument and resource inventory. Based on its distinctive quality and specific procedure, the physical resource inventory evaluation method is recognized by this paper as a proper means to evaluate attraction of nature-based tourism destinations (NBTD). With the intention of improving both the objectivity and the applicability of NBTD in order to facilitate the assessment method's popularization, this paper proposes a universal evolution attraction framework for NBTD. For the purpose of research, this paper reviews the process of physical resources inventory, constructs general assessment structure and designs a scoring system in light of the attractions of NBTD. This paper also discusses the definition of NBTD, the ranking system of attraction assessment and other aspects recognized as necessary parts in the research.

Keywords: Attraction assessment, nature-based tourism, physical resource inventory

Abstrak

Sehingga kini, pelbagai kaedah penilaian telah digunakan di dalam mengkaji destinasi pelancongan semulajadi yang meliputi aspek persepsi awam, instrumen polisi dan inventori sumber. Berdasarkan kepada kualiti dan prosedur yang spesifik, kaedah penilaian secara inventori sumber semulajadi fizikal telah dianggap sebagai cara yang paling sesuai untuk menilai destinasi pelancongan semulajadi. Untuk tujuan memanfaatkan penyelidikan, artikel ini menilai proses inventori fizikal dan juga merangka struktur umum serta sistem pemarkahan untuk penilaian tarikan di kawasan pelancongan semulajadi. Artikel ini turut membincangkan definisi definisi pelancongan semulajadi, sistem ranking di dalam penilain tarikan dan lain-lain aspek yang dirasakan perlu semasa menjalankan kajian.

Kata kunci: Penilain tarikan, pelancongan semulajadi, inventori sumber fizikal

1.0 INTRODUCTION

Nature is unique and dynamic. According to [1, p. 2], the connectedness between man and nature is valued by how an individual perceives nature in terms of '*…whether or not she [or he] views herself [or himself] as part of or separate from nature*'. Besides playing an important role in balancing the ecological system, it is learned that nature holds the possibility of enhancing the tourists' engagement propensity with specific destinations. Given that nature and nature-related activities offer outlets related to stress management, nature-based tourism industry has become the fastest-growing segment of tourism [2]. Enjoying a long tradition principally dating back to 1968, nature-based tourism industry has been experiencing phases of dynamic development, and is

regarded as one of recent mainstreaming tendencies [3; 4]. Currently, nature-based tourism has become a well-established type of tourism that grows at a steadily increasing rate [5] with an estimated growth rate by 10% to 30% per annum [6; 7] and generally about two to five times faster when compared to the remaining sectors of tourism industry [8].

Nature based tourism maintains a dependent, enhancive relationship with the natural environment in terms of its utilization of attractions [9]. [10] classified nature resources into five categories in accordance with environment attribute of tourism areas, namely seaside, river and lakeside, mountain, country (or plain), and cultural heritage. [11] suggested that in a broader sense, nature tourism is a subset of alternative tourism consisting of natural, cultural, event and other types of tourism. [12] however defined nature tourism as travelling to relatively undisturbed or uncontaminated natural areas with the specific objective of studying, admiring and enjoying features related to environment, ecological system and any existing cultural manifestations. In a similar vein, [11] classification and conception of nature tourism are consistent with [13] explanation which argued that nature tourism depends on natural resources in undeveloped surroundings. To conventional knowledge, nature-based tourism is a subject that comprises depth of experience and tourists behaviour. Figure 1 exhibits the constitution of nature-based tourism which literally includes all passive and active relationships observed between tourists and natural attractions. Although experience depth changes with levels of interaction between tourists and natural attractions, the significant level of experience depth which is strongly related to satisfaction is subjected to a range of factors including hospitality, prices, communication barrier and service [14, 15].

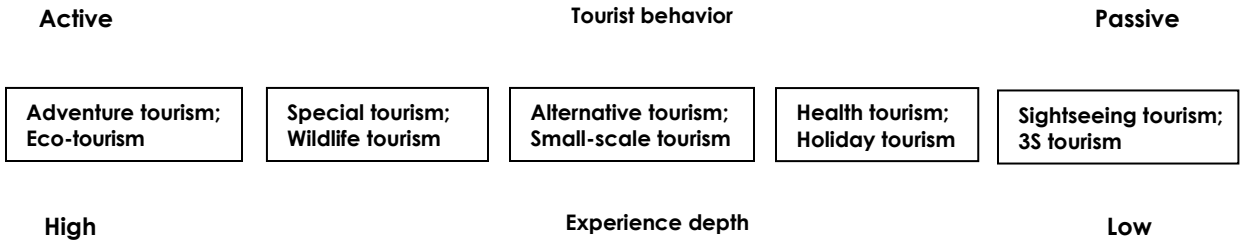


Figure 1 The constitution of nature-based

Fennel argued that there is no uniform definition of nature-based tourism and the constitution of nature-based tourism is still being debated [16]. Based on scholars' objectives and research purposes, nature-based tourism terminology is often used interchangeably with other terminologies, for example, sustainable, ecotourism, and alternative tourism [17, 18]. According to [2, p. 157], nature-based tourism definitions' similarity and redundancy observed between studies are recognized to be different and exclusive *"in terms of emphasis or underlying philosophy"* as shown in Table 1.

Table 1 Definitions of 'nature-based tourism' and other related terms

Term	Definition
Nature-based tourism	Nature-based tourism is primarily concerned with the direct enjoyment of some relatively undisturbed phenomenon of nature [19]
Ecotourism	Eco-tourism is environmentally responsible travel and visitation to relatively undisturbed natural areas, in order to enjoy and appreciate nature (and any accompanying cultural features – both past and present) that promotes conservation, has low negative visitor impact, and provides for beneficially active socio-economic involvement of local populations. [13]
Wildlife Tourism	Wildlife tourism 'based on encounters with non-domesticated (non-human) animals ….in either the animals' natural environment or in captivity. It includes activities historically classified as "non-consumptive" . . . as well as those that involve killing or capturing animals . . . ' [20]
Adventure Tourism	Adventure tourism is a nature tourism with a kick – nature tourism with a degree of risk taking and physical endurance [21]
Alternative tourism	Alternative tourism can be broadly defined as forms of tourism that set out to be consistent with natural, social and community values and which allow both hosts and guests to enjoy positive and worthwhile interaction and shared experiences [11]

Source: Modified from [2, p. 158].

2.0 NATURE BASED TOURISM ASSESSMENT

According to [22], destination attractions can be evaluated by means of [a] studying the attractiveness components and [b] exploring the stakeholders' opinions and perceptions on the attractiveness components. Nature-based attractions assessments are mainly discussed from the perspectives of [a] public perception, [b] policy instrument and implementation as well as [c] nature-based resources inventory. The discussion presented in this paper is motivated by the intention of developing an assessment model framework that is transferable, with specific regards to the aforementioned three perspectives.

2.1 Public Perception

According to [3, p. 474], public perception studies are '*…not only a popular pastime, it is a matter of practical necessity in many aspects of modern life*' related to opinion saliency where it measures the degree of importance and relevance of a subject to people's values. In a detailed sense, public perception is structured by opinion and attitudes where these factors express conceptual and psychological disposition of one's interaction with their physical environments [24, p. 249]. According to [25] and [26], people often feel connected to a certain concept of a particular destination attraction due to their previous experience and their perception which are further influenced by the level and the quality of knowledge and information gathered by the tourists.

In relation to tourists' arrival, public perceptions are used to address tourism activities and sensitivity towards nature based tourism development. Public perception pattern and trend will be in proportion with changes in tourists' demand which is shaped by tourism's opportunities, strengths, weaknesses and threats [27]. Public perception method offers insights on the population's specific viewpoint on a particular destination attraction; however, it does not explain the reason behind the population's judgments. Considered as silent voices, public perception is never accepted as a source of demand. Rather, it is more towards serving as '*…a system of dikes which channel public action or which fix a range of discretion within which [appointed bodies] may act or within which debate at official levels may proceed*' [28, p. 4].

2.2 Policy Instruments

Policy instruments with regards to nature-based tourism attractions should display the strategies to maximize benefits gained from nature-based tourism development while at the same time minimizing any possible setbacks. Republic of Botswana [29] sees tourism policy as having two salient features where the first involves carrying the tourism activities on a sustainable basis and capacity, while the second wields the appointed bodies' responsibilities in providing the local residents with tourism's direct and indirect benefits. The success of a policy is reasonably connected to people's acceptance and participation [30]. It is envisaged that a pragmatic policy should be addressing the changing trends of socio-economic and human behavior especially at the local level. By having a proper organization structure that addresses appropriate issues or tasks [31], the policy that is established, offers to a certain level, a means of empowering the local residents. Within a general framework, tourism policy considerations include (a) tourism awareness level, (b) planning capacity, (c) crime prevention, (d) catastrophes management and (e) communication network [32, p. 2]. According to [33], when it comes to attraction assessment of NBTD policy and regulation, the nature-based tourism representatives should conform to the following three criteria of (a) Effectiveness, (b) Acceptability and (c) Feasibility.

2.3 Physical Resource Inventory

Physical Resource Inventory (PRI) is a method employed to prepare a checklist of the following aspects, namely (a) the physical elements' occurrence, location and condition, (b) types of flora and fauna, (c) special concern species as well as (d) identify threats and physical elements that should be given priority. PRI techniques enable natural resource monitoring which provides information on changes in activity or in the natural resources condition. As an effective assessment method, PRI has been applied widely in many fields, such as forest [34], land [35]; [36], vegetation [37], food [38], lake [39], rangelands [40] and national park [41]. PRI exists in the forms of indicator matrix [42]), component checklist and bipolar semantic differentials [43]. Due to nature-based tourism resources' great differences in attributes and characteristics, these models are proven to be inadequately suitable for other fields related to NBTD. Nevertheless, PRI may be regarded as an appropriate method to assess the attraction of NBTD based on its ability in measuring the effectiveness of natural resources management intervention efforts. Accordingly, this paper proposes the application of PRI for NBTD assessment. Of importance, changes will be suggested within the existing PRI framework in order to structure a more scientific assessment framework with general and wider applications to evaluate the attraction of all NBTDs. The basic framework and main process for this method of evaluation will be discussed.

3.0 A FRAMEWORK FOR NATURE-BASED TOURISM DESTINATION ASSESSMENT

In general, the PRI techniques constitute the following four steps, which are (a) investigation to define the destination; (b) destination's resources inventory program, (c) destination's attractions evaluation and [4] results presentation in the form of spatial map, as shown in figure 2.

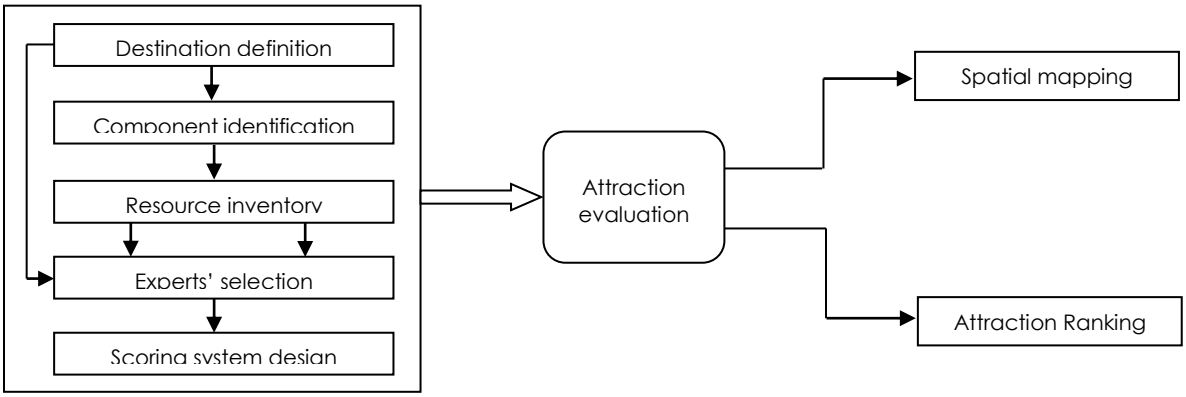


Figure 2 The process of PRI in assessing attractions of NBTD

3.1 Destination Definition

The destination terminology is largely used to describe, communicate and analyze the tourism industry. Compounding this issue is the realization that destination terminology can be encapsulated as *'a narrative, an attraction, a geographical unit, an empirical relation, a marketing object or as a place that houses the tourism activities'* [44, p. 93]. Interestingly, [45, p. 1] defined destination as a meeting place of individuals *'…coming from separate context and with different perspectives and knowledge'*. The process of defining NBTD should first address NBTD specific attractiveness that constitutes their fundamental nature and characteristics [46]. In addition, scholars also define NBTD based on its physical environment and development potential [47]. [48] argued that NBTD can be defined through tourism activities, which are further categorized into three main groups (activities dependent on nature, activities enhanced by nature and activities where the nature setting is incidental). The activities' diversity, destinations' range and travel-related styles are three of many other NBTD dimensions. [48] stated that these dimensions can be classified into groups of experience, style and location (see Table 2). Against this background and in consideration of investigation fields, this paper defines NBTD as a complex constituted by nature resources, available tourism activities and physical environment.

Table 2 Dimensions and variations of nature based tourism [48]

	DIMENSIONS AND VARIATIONS
Experience	[1] Nature-dependency (dependent, enhanced), [2] Intensity of interaction (dedicated, casual), [3] Social sensitivity (intra-group dynamics), [4] Duration
Style	[1] Level of infrastructure support (field, base), [2] Group size and type, [3] Cultural interaction factor, [4] Willingness to pay, [5] Length of *visit*
Location	[1] Accessibility (remoteness), [2] Development contribution (city, *village)*, [3] Ownership (private, *government)*, [4] Fragility (sustainable, capacity)

3.2 Identify the Evaluation Components

Identification of the evaluated NBTD components refers to the process of classifying NBTD attractiveness attributes into several segments which are then used to examine relationships between attractiveness attributes. Motivated by related attractiveness studies, [49; 50 & 41] have identified five major components that contribute to the NBTD attractiveness (Figure 3). The relevant components considered appropriate for this study are accessibility (time, space and road network) [51, p. 115], resource (tangible and intangible factors) and facilities (infrastructure, recreational and educational). [10] who examined NBTD attractiveness by using means of factors' weight, decided NBTD assessment priority based on the following components, namely (a) tourist resource, (b) regional conditions and (c) locational characteristics (see Figure 4). Of interest, both [10] and [41], NBTD assessment models emphasize on cultural/aesthetic value of local residents.

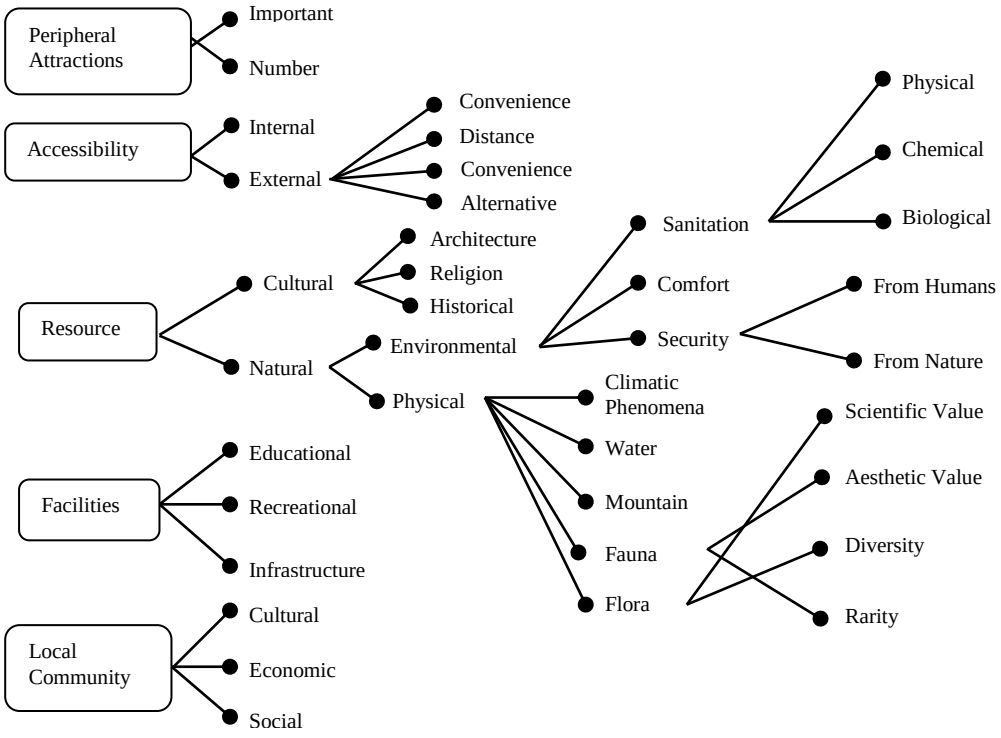


Figure 3 Hierarchy for natural attractions [41]

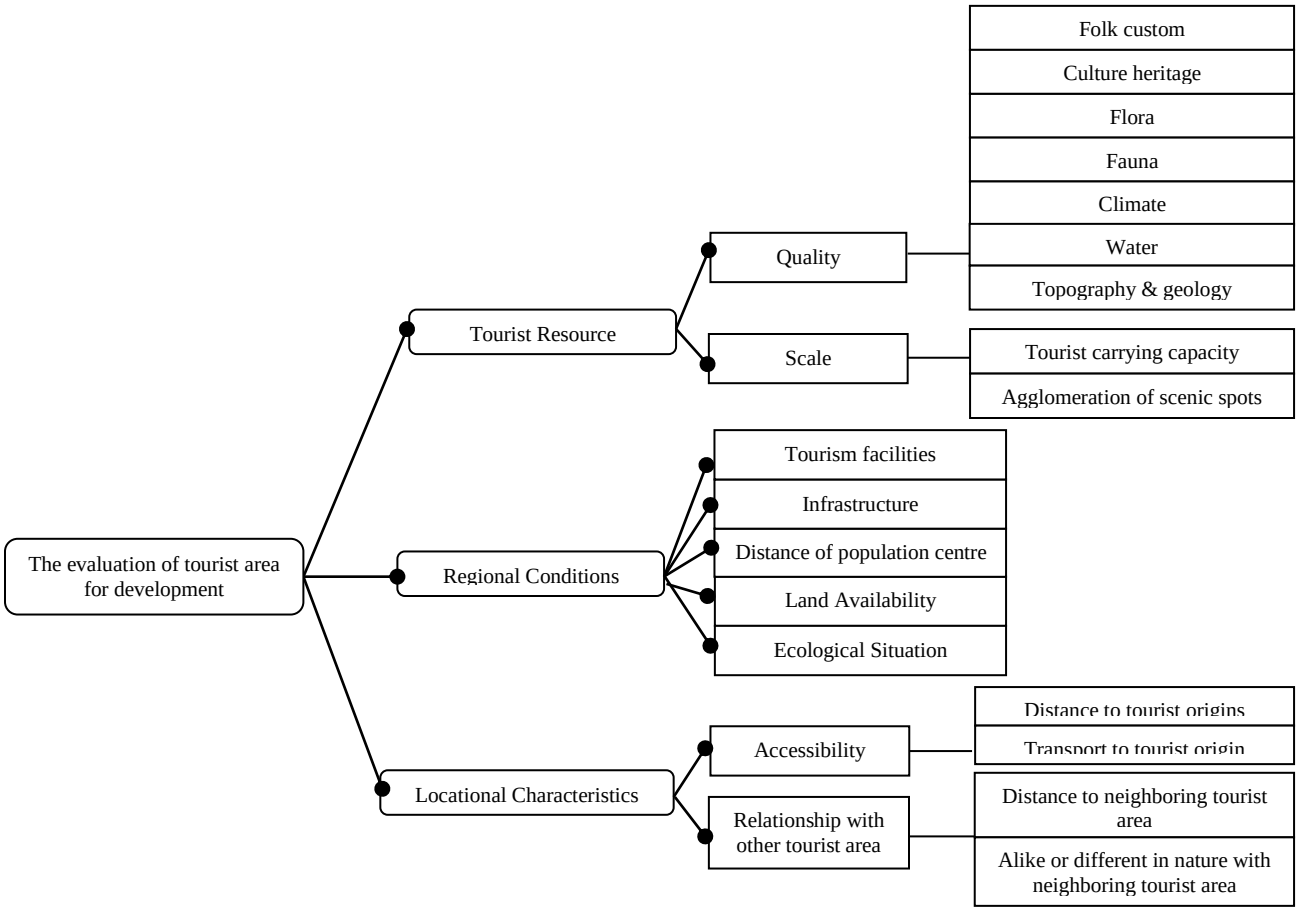


Figure 4 Hierarchy of factor evaluation [10]

This paper refers to both NBTD assessment models suggested by Chu [10] and [41]. Based on observations of the present attractiveness assessment studies, this paper structures the proposed NBTD assessment model framework from the following three perspectives, namely natural resource quality (refers to both natural/physical and tangible/intangible factors), activity opportunity (refers to events offered/engaged and passive/active) and physical environment quality (refers to both carrying capacity and crime prevention) (see Figure 5). Of importance, based on the nature-based tourism constitution showed in Figure 2, this paper includes sport factor as one of the activity opportunity subsets. Therefore, support completeness factor which fall under the environment quality component is a subset connected to both infrastructure development and planning (environment quality) and services and hospitality (activity opportunity).

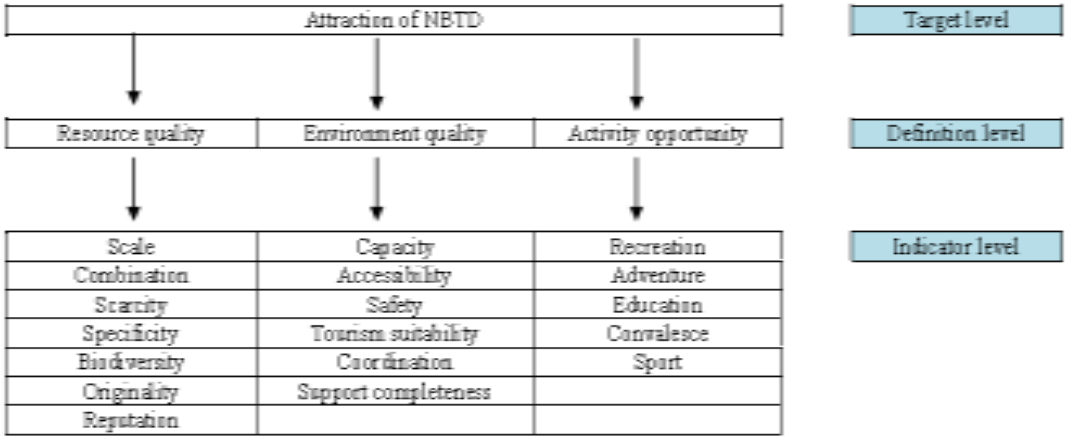


Figure 5 General assessment structures in evaluating attraction of NBTD

3.3 Resource Inventory and Expert Selection

Conducted via a two-phase approach, the first phase involves quick data collection where information was recorded by means of multimedia (photographs and videos) and drawings (sketches and plans). The second phase complements the first whereby data were collected through interviews, surveys, existing database and records from appointed agencies. The second step of the PRI program was conducted and handled by experts from various related fields (tourism planner, botanists, zoologists, ecologists, environmentalists and geographers) who examined and weighted the inventory checklist data based on specific attention to research purpose, destination definition and resource inventory. Interestingly, this paper observed an overlapping interest between experts particularly on factors of safety, coordination, education and accessibility. Notwithstanding their different qualifications and backgrounds, these experts envisaged the aforementioned NBTD attractiveness as NBTD development pillars. For that reason, this observation should be of interest to nature-based tourism's appointed bodies with regards to nature-based tourism industry planning and management.

3.4 Design Scoring System

Given that this paper aims to structure an assessment framework that is transferable and applicable to other segments of the tourism industry, changes are made to the weighting system process. Nevertheless, for the purpose of objectivity and practicality, related principles and rules of thumb are referred to during the process of designing and constructing any scoring system pertaining to assessment attraction of NBTD. The Delphi technique was employed for the purposes of diminishing the possibility of guided behavior, and as well to ensure that the decisions made by experts were done based on their specialization and sound knowledge of nature-based tourism. Rather than allocating 10 experts for each factor evaluated as suggested by [43], employing only one expert during the inventory checklist program will offer both quick and thorough assessment in terms of time allocation, intricacy level of views and points of interests as well as in-depth discussion between experts of each factor. In situations where experts faced difficulty in reaching an agreement, the weighting system can be constructed by calculating the average value.

3.5 Attraction Evaluation

Other than experts in tourism-related fields, NBTD components can be also evaluated by tourists due to the fact that tourists are the main and major component engaged with tourism products [22]. Accordingly, other tourism stakeholders including service and hospitality providers, developers of tourism products, tourism practitioners, local residents

and the government itself are important actors in the NBTD components evaluation process. Due to differences in levels of understanding and accessibility to the following aspects namely (a) tourism development plans, (b) tourism activities engagement in certain nature-based tourism locations, (c) perceptions and experiences on nature-based tourism and (d) knowledge on nature-based development impacts, this paper proposes an all-level comprehensive evaluation. This is to suggest that rather than depending solely on experts' judgments, NBTD components evaluation will be addressing opinions and suggestions from the remaining nature-based tourism stakeholders. This approach holds the ability to strengthen and enhance experts' observation as well as complement the absence of pair wise comparison method and the lack in number of experts involved in the PRI process.

3.6 Spatial Mapping and Attraction Ranking

In this phase, Geographic Information System (GIS) are employed to present the nature-based PRI's spatial distribution in the form of geographical maps. Based on the geographical maps' inclusive infrastructure, accessibility and physical environment, the next procedure of the NBTD assessment involves attraction ranking process. Of importance, it needs to be emphasized that the attraction ranking depends strongly on human judgments and nature-based tourism development. The experts' judgments may thus serve as indicators and guidelines for NBTD assessment and development, but would require further refinements and progressively strengthened with continuous monitoring process and evaluation. Regardless, given that the proposed PRI framework focuses on an inclusive all-level assessment, the ranking system may be transferable and applicable to tourism development plans and management.

4.0 CONCLUSION

Although there are many methods available to evaluate NBTD from the perspectives of public, policy and supply chain, the lack of objectivity and applicability makes it difficult for these methods to be transferred and to be applied to other relevant studies. [52] regards PRI method as an effective method to assess attractions of NBTD in spite of certain inappropriateness in terms of direct application. Motivated by [52] findings, this paper proposes a new PRI framework which constitutes Delphi Technique, GIS and statistics, and cover phases of NBTD components' definition, inventory, selection, evaluation and ranking. This proposed framework offers benefits in terms of all-level evaluation, time allocation, intricacy level of views and points of interests, as well as in-depth discussions between experts of each factor. However, due to NBTD exclusive characteristics and the absence of pair wise comparison method, the proposed PRI framework has some shortcoming in terms of providing a universal scoring and ranking system as well as information on causal relationship between various NBTD components. Regardless, the wide applicability of the framework will only be slightly affected and offers instead, an inherent flexibility and enhanced effectiveness. Similar to existing evaluation assessment methods, the proposed PRI framework is strongly related to the dynamics of tourism and human behaviour. In other words, the proposed PRI framework changes proportionately and accordingly to intrinsic attributes and technological development [53]. It is suggested that the proposed PRI could present a useful contribution to the tourism industry specifically and in other industries generally. This paper proposes that future studies in attraction evaluation assessment pay additional attention to aspects of the effectiveness of available monitoring and evaluation methods. This is motivated by the different levels of awareness and knowledge of the various tourism stakeholders, which ultimately lead to affecting the possible outcomes of solutions and critical decision making processes.

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