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DEMAND FOR AND VALUE OF OUTDOOR RECREATION IN LANGKAWI BY DOMESTIC VISITORS

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DEMAND FOR AND VALUE OF OUTDOOR RECREATION IN LANGKAWI BY DOMESTIC VISITORS

By

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JANUARY 1994

Chairman : Prof. Dr. Mohd. Ariff bin Hussein

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Analysis of demand for outdoor recreation is the initial necessary step in the planning process of the development and for the management of outdoor recreation. Demand analysis can help in ascertaining the value of outdoor recreation compared to other alternative uses of the resources.

The demand for outdoor recreation domestic visitors in Langkawi is influenced by several factors. A modified travel cost model is specified and used to estimate the demand for outdoor recreation. Modification of the Clawson model is made in terms of the inclusion of the opportunity cost of travel time, the effects of substitutes, income, and the quality factors. With a semi-disaggregated functional form, the model is estimated using the OLS technique; and the results conform to theory and a priori information. The value of time in travel is estimated at 92.2percent of the average income of the consumer. The availability of substitute sites affects demand for outdoor recreation in Langkawi. The quality

variable however, is not significant in determining the demand for outdoor recreation in Langkawi.

The economic value of Langkawi as a recreational centre, estimated using the modified travel cost model is approximately $51 mil. To this effect, development efforts that are being carried out to make Langkawi a prime tourism-outdoor recreational centre in the country is justified.

Abstrak tesis yang dikemukakan kepada Senat Universiti Pertanian Malaysia sebagai memenuhi keperluan bagi penganugerahan Ijazah Doktor Falsafah.

PERMINTAAN DAN NILAI REKREASI LUAR DI-LANGKAWI BAGI PENGUNJUNG TEMPATAN

oleh

AHMAD SHUIB

JANUARI 1994

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Analisis permintaan untuk rekreasi luar adalah langkah awal yang perlu dalam proses pembangunan dan pengurusan kemudahan rekreasi luar. Analisis permintaan rekreasi luar boleh membantu dalam menentukan faedah rekreasi luar berbanding dengan kegunaan-kegunaan lain ke atas sumber yang sama.

Permintaan pengunjung tempatan terhadap rekreasi luar di Langkawi dipengaruhi oleh beberapa faktor. Model kos perjalanan yang diubahsuai digunakan untuk meramalkan permintaan untuk rekreasi luar. Ubahsuaian terhadap model Clawson dibuat dengan memasukkan faktor kos lepas perjalanan, kesan pengganti, pendapatan dan faktor kualiti. Menerusi bentuk fungsi semi-disagregat, model berkenaan dianggar dengan menggunakan kuasa dua terkecil biasa. Keputusan analisis selari dengan teori dan maklumat a priori. Nilai masa dalam perjalanan dianggarkan menyamai 92.2 peratus pendapatan purata pengguna. Permintaan untuk rekreasi luar di Langkawi didapati dipengaruhi oleh

kewujudan tempat-tempat rekreasi lain sebagai pengganti. Kualiti tempat rekreasi di Langkawi didapati tidak mempunyai kesan yang signifikan ke atas permintaan.

Pembangunan Langkawi sebagai pusat rekreasi menghasilkan faedah ekonomi berjumlah $51 juta. Dengan itu usaha pembangunan yang sedang dilaksanakan sekarang untuk menjadikan Langkawi pusat pelancongan dan rekreasi luar yang utama adalah munasabah.

CHAPTER ONE

INTRODUCTION

Recreation is generally taken to mean the action of recreating (oneself or another), or fact of being recreated by some pleasant occupation, pastime or amusement. The term recreation, therefore refers to any type of activity that brings about conscious enjoyment.

Recreational activities that individuals undertake may include those that are normally thought of as basic bodily functions, those that may be considered as psychologically abnormal or even activities that damage objects, individuals or even society (Chubb and Chubb, 1981). This broad definition of recreation includes such activities as jogging in the park, sleeping late on Sunday morning, reading to children, hunting smallgame, gambling at racetrack, window shopping, repairing a car, going to a concert or watching television.

In the present study, recreation activities will be confined to the outdoor recreation activities. The term outdoor recreation is used to mean those recreation activities that occur in an outdoor environment. Such a recreation activity may take place in an urban or rural settings.

Limiting the study to just outdoor recreation is done for two reasons. The first, is to exclude those recreational activities that can be carried out both indoors and outdoors,

for instance, recreation activities like badminton, tennis, basketball, swimming and many others that can be played both indoors and outdoors. The second reason is to limit the scope of the study to those outdoor recreational activities that necessitate the use of facilities provided for as public goods, for instance, camping and trekking at the state forest reserves. Therefore, our definition excludes such activities as going to the stadium to cheer the local team in a soccer tournament.

Benefits of Outdoor Recreation

There is now increasing awareness among policy makers in Malaysia that recreational facilities need to be developed or existing ones upgraded to boost tourism in the country as a source of foreign exchange earnings. This is evidenced by the increasing trend in allocation in successive Malaysian Economic Development Plans. For example in the fifth plan period (1986 - 1990), the allocation for the development of tourism and recreation sector amounts to $571.65 mil, almost a triple increase compared to the fourth plan period (1981 - 1985) (Fifth Malaysia Plan, 1986). Table 1 shows the distribution of the allocation for the two development periods.

Table 1

Federal Government Development Allocation
for the Tourism/Recreation Sector, 1981 - 1990
($ mil)

Agency	Fourth Plan Allocation (1981-85)	Fifth Plan Allocation (1986-90)
Ministry of Culture and Tourism/Tourist Development Corporation	40.16	16.99
Pernas	52.81	342.00
State Economic Development Corporations:		
Kedah	2.30	1.24
Kelantan	15.00	33.90
Melaka	1.90	6.09
Pahang	-	29.65
Sabah	1.70	7.79
Sarawak	2.81	29.15
Trengganu	14.00	20.00
Food Industries of Malaysia	2.40	28.00
Department of Wildlife and National Parks	1.55	7.67
Johor Tenggara Development Authority	9.13	0.80
National Zoo	4.75	7.33
Malaysian Handicraft Development Authority	-	4.04
Pan National Shipping Line	-	36.00
Total	148.51	571.65

Source: Mid Term Review of the Fifth Malaysia Plan, 1988

The benefits of outdoor recreation to individuals and society can be both non-economic as well as economic. Individuals participate in recreation for leisure, physical and mental health. Although mechanization and computerization have generally reduced the working hours, more people have to spend longer hours on sedentary jobs with shorter time for walking and other physical activities. The increase in leisure time has provided more opportunities for participation in recreation activities. Urban dwellers can temporarily obtain relief from stresses of crowded conditions and the hectic pace of life through participation in recreational activities. Individuals whose tasks are repetitive and impersonal find some life and excitement in recreational activities. Individuals whose lives are hampered by mental and physical disabilities too find solace in recreational activities.

Society as a whole benefits from recreational development. Society becomes stronger because people in the community are able to know and appreciate each other. When individuals in the society take part in recreational travel, they develop understanding between states and within nation.

Recreation is frequently an effective educational medium, for it allows people to learn to work with each other, to plan their activities and also to manage people, finances and time for their own benefits. Education through recreation

activities is enjoyable, and people learn much more easily if learning is enjoyable.

Recreation activities that allow people to use their natural surroundings may also make them aware and understand environmental issues. The process of economic development has changed the kinds of technologies that are used in the production of many essential goods. More non-biological inputs and non-organic chemicals are used in the production process. Wastes from the production process are disposed of in many different locations; the easiest and cheapest waste disposal outlets (from the point of view of producers) are the air and water bodies (rivers, lakes and seas). These same water bodies are usually used for recreational purposes. Thus through recreational activities people can become aware of the deterimental effects of biological and physical pollution and resource deterioration.

The sociological-cultural and psychological contributions of recreation are well-documented. For instance, Allen (1979) showed that the physical attributes of the wilderness areas were more important than the social and managerial attributes in satisfying the preferences for wilderness experience. In another study, Haas (1979) showed that there existed a significant linear relationship between the physical attributes

of the wilderness areas and the psychological outcomes in recreational experiences of users.

The economic contributions of recreational development can be viewed in terms of the expenditure impacts, the employment impacts and the linkages to other industries in the economy. When people participate in recreation activities, they may have to spend large sum of money to purchase or rent recreational goods and services. For instance, visitors to Malaysian recreational areas spend on the average $250.00 per day per person on food, lodging and recreational participation (Table 2). The direct and indirect effects of the expenditure on recreational activities on the economy through the multiplier effects is substantially larger. Furthermore, many industries are related to the provision of recreation facilities and services. They are, the production and distribution of materials needed by the recreation industry, for example, agricultural products, energy, lumber, paper; manufacture and construction of products that are not considered primarily recreational but nonetheless are used for recreation purposes (e.g. automobiles, private homes) or in the provision of services that help people take part in recreation activities, for example, public transportation system employees, insurance agents (Aziz et al., 1990).

people who are indirectly employed in the provision of recreation is difficult.

One other popularly - discussed economic consequence of outdoor recreational investment is in the so-called "option demand" for recreational facilities. The present generation may be willing to make sacrifices in order to preserve important environmental resources or recreational opportunities even though this generation may not be able to consume them (Knetsch, 1972). But the preserved resources could be used at a later date or have them available for succeeding generations. The establishment of the National Parks and other forest reserves in Malaysia may be looked at in this perspective. The sacrifices are seen as worthwhile because future generations may be able, in the least, to view elephants, tigers and other endangered species, and to study the flora and fauna of the country. The concept becomes more appealing considering the large amount of the country's natural resources being exploited in the name of economic development without due consideration to the long run effects of such exploitations. Weisbrod (1964) argued that for certain recreation resources where option demand is widespread, the operation of such facilities would be more efficient if part of the costs were borne by the general tax funds.

Relevance of A Demand Study on Outdoor Recreation

Conservationists, sportsmen, welfare workers and others outside the economic profession have argued that since the benefits of recreation experiences are personal they cannot be quantified in any meaningful way. Any attempt to do so misses the qualitative essence of such experiences. But a quantitative or empirical measure of recreation is useful for many purposes. For instance, an accurate and acceptable value of outdoor recreation would be valuable for resource planning. The value would provide a means for comparing the importance of recreation with that of other uses of the same resource. Land may have multiple uses; thus, plannings could then be made so that the resources are used in the combination that will best meet the needs of the people.

Increases in per capita income and standard of living, would increase, as is observed in many developed countries, participation in outdoor recreation which lead to rapid expansion of many types of recreational land. In order to properly evaluate the role of recreation as a user of land and water resources, quantitative estimates must be applied to recreation. Even if recreation is considered an incidental benefit, as in the case of the water quality improvement project, the estimation of total benefits requires the

measurement of the contributions from each sector of the investment. This includes the benefits associated with the use of the project for outdoor recreation.

Due to the public good characteristic of most outdoor recreation facilities it is difficult to estimate the rate of charges for the use of the facilities. The monetary estimate from recreational demand studies could be used as a ceiling for any fee that might be charged. Since demand, in economic terms, relates price to quantity, the fee could be charged at a level that would just pay the operating and maintenance costs, if this is the level that is desired. Quantitative estimates on the value of recreation could be used to impute a measure to see if investment in such a project would bring in acceptable rates of return.

Various methods have been used to determine the value of outdoor recreation. In cases where private individuals or organizations provide recreational facilities, the expenditure approach is often used. Here the charges imposed - in the form of entrance fees - are taken as the indicator of value; this method is, however, not usually based on the concept of willingness-to-pay. The charges are more often based on capital expenditure and operating costs discounted over the life of the facilities. Hence, the charges may not reflect the true value of the recreational facilities. Other approaches

such the land value method, the value of catch method etc. do not indicate the true value to users. The opportunity cost approach has been used quite often to estimate the value of outdoor recreation (Christensen, 1983). However, a disadvantage of this method is that it does not offer any guide to evaluating a contemplated loss of recreation opportunities, since any project which is contemplated can be justified based on "intangible considerations". Thus it is difficult to discriminate between the relative values of alternative investment opportunities (Crutchfield, 1962; Lerner, 1962).

In the process of evaluating the outdoor recreation, as a first step, and a necessary one, a distinction must be made between recreation consumption or participation and recreation demand. Recreation demand is not the product of multiplying population by recreation activity participation rates, neither is it synonymous with recreation participation. The confusion over the concept of recreation demand may be linked to the fact that outdoor recreation, especially those components that are provided by official institutions, is available at zero or nominal charges, though in the real sense participation requires costs which influence the number of visits to recreation areas. Because of the "free good" characteristic of outdoor recreation, the basic notion of price-quantity relationships, which lies behind the concept of demand and supply, is ignored. As such, consumption or

participation of outdoor recreation is mistakenly equated to demand for outdoor recreation.

The current usage of "demand" by non-economic professionals, public administrators and planners is not demand at all. Demand is the interaction between price and quantity at a particular point in time; whereas participation is the result of the interaction between supply and demand factors over time, for example, for a season, week, day or some appropriate measurement. The rates of participation or consumption measure only the amount of recreation consumed at the existing level of price and facility supply, that is, they measure the existing recreation opportunity condition. The participation rates are thus influenced by both demand and availability of supply, and will reflect both the characteristics of the population and the facilities that are available to them. Most people will participate in the kind of recreational activities available to them; people living closest to beaches can be expected to take part more in water/beach recreational activities than others.

The misconception of the "demand" measure could lead to errors in well-intentioned planning efforts. The errors may result because participation rates only give arbitary indication of what demand for recreation is and its relative