FORECASTING THE EXPECTED RECREATIONAL BENEFITS IN THE HULA PROJECT

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INTRODUCTION

The Hula project in the north of Israel aims at recreating a marsh which in the early 50's was drained. The reflooding aims at solving problems like water level and quality, dust, spontaneous fires, non-productive soil and regional unemployment. Recreating the marsh landscape is achieved by digging a lake, “creating” islands, populating the area with wild animals, planting characteristic vegetation, and attracting birds (to recreate the role of the marsh in the birds' migration route). It is hoped that this landscape will be attractive to recreation, enabling safari, bird watching, boating, picnicking, etc.

This research deals with the following issues:
- what is the potential for recreation in the Hula Park;
- which activities would attract to potential visitors;
- what are the expected recreational benefits from the Hula project;
- how do environment and man interact with respect to social carrying capacity.

The paper describes the survey conducted in neighboring parks in the Upper Galilee, where a series of samples of recreationists were conducted in different seasons. It is estimated that at present 1.4 million recreationists visit the Upper Galilee annually, besides visits of overseas tourists. 87% of the respondents to the survey answered positively regarding their interest in visiting the Hula Park. On average, they would be willing to spend 31 NIS (around 10$) per adult for entrance fees. These preliminary results show that the park has a big potential as a recreation area.

THE SURVEYS

Forecasting the demand for a non-existing, planned park could be based on a national sample or on an on-site survey conducted at existing parks. We decided against a national survey since a high percentage of the population does not actively participates in recreation - only 26% percent visited the Upper Galilee in 1994 for recreation purposes (Fleisher and Saati, 1994). Using a national survey would require a high number of interviews in order to obtain a reasonable representation of people acquainted with recreation in the area, and would correspondingly result in a very high cost. For these reasons, we opted for an on-site survey of visitors to existing parks in the Upper Galilee, in order to ensure that the interviewees are familiar with the area and its potential for recreation, with travel conditions, lodging conditions, etc. Since one would expect differences in recreation patterns throughout the year, we have planned to conduct the surveys in four different seasons. At this stage our results represent surveys of visitors to five parks in the Summer and Fall of 1995, comprising altogether 450 respondents. Only adults (visitors who are 18 years and older) were interviewed, one individual from a group sampled.

The questionnaire

The questionnaire contains five categories of questions:
* Responses to hypothetical questions regarding the proposed Hula Park;
* Recreational patterns of visits at existing parks: size of group, number of visits in the last five years, length of stay, expenditures incurred, etc.;

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* Questions regarding distance traveled, to enable deriving the derivation of a demand schedule for recreation (using the Travel Cost Method);
* Questions regarding social carrying capacity;
* Demographic and socio-economic characteristics.

Demographic and socio-economic profile

Comparing the characteristics of the visitors in the Upper Galilee parks to the Israeli population at large one is justified in inferring that the visitors are more educated, have a higher income, are mostly in the age group of 30-49, and a high percentage of them have larger households. Respondents in the analyzed sample are highly educated: about 30 percent of them have a university degree vs. 18.5% in the Israeli population at large (Central Bureau of Statistics - CBS, 1995); 48% of the respondents stated that their income is above the national average, while only 25% are below the national average (the gross average income in 1992/93 was 5,348 NIS). 81% of the respondents own a private car. Among the interviewees (all of them 18 years and older) the age structure is as follows: 29% are in the 18-29 age group and 63% are in the 30-49 age group vs. 30.2% and 39.2% respectively in the general population (CBS, 1995). 60% of the respondents have families with four or less family members and 17% of the respondents have six and more family members vs. 69.3% and 15.1% respectively in the general population (CBS, 1995). One is justified in inferring that the visitors are more educated, have a higher income, they are mostly in the age group of 30-49, and a high percentage of them have larger households.

Recreational patterns in the area

Fleisher and Saat (1995) studied the recreational patterns in the Upper Galilee area. Using a national survey of the adult Jewish population they estimated that 38% have visited the area for various purposes, and 68% of them was for recreation, which means that 26% were in the Upper Galilee for recreation purposes. We assume that the recreation patterns among the non-Jewish population are similar to the Jewish population (partly because they reside much closer to the Galilee, and are less affected by the cost of travel).

Using the 1994 population we estimate that 1.4 million were recreating in the Upper Galilee. According to our survey, 63% of the respondents have already visited the Upper Galilee in the last year and another 27% have visited it in the last five years. 30% of the visitors stated that the preferred season for visit is summer, 24% of the respondents prefer to visit this area in all seasons and 22% have no preferred season. 44% of the respondents came to the area only for one day, while 56% of the visitors came for a few days (staying at the area itself or its vicinity). The major activities at the recreational sites are hiking - 45%, picnicking - 44%, and swimming - 21% (each respondent had to mention two preferred activities). Most of the respondents (82%) spent more than two hours in travel from their home to the vacation sites, and those who stay overnight, have more than three hours of travel time. The distance traveled indicates that the Upper Galilee area serves as a national recreation area, attracting visitors from all over the country.

RECREATIONAL BENEFITS OF THE HULA PROJECT

Since the environmental good - Hula Project - to be analyzed is in a construction phase, we need to set up a hypothetical market through which it is possible to elicit its valuations directly from individuals. The questionnaire describes the safari planned features of the park: an artificial lake, a park, a birds sanctuary, etc., and then asks respondents to indicate their willingness to visit a park with these characteristics. 87% of the interviewees responded positively, 12 percent were not sure or did not know, and only 1.2% of the respondents answered negatively. Given current level of visits to the Upper Galilee (1.4 million visits annually), if these intentions were realized, it might result in heavy load on the park. Respondents were also asked to state the two preferred activities in the new park (the interviewees read out a list of planned activities in the park). 36% of the respondents wish to visit the fowl and birds sanctuary, 30% wish to visit the safari park, and more than 20% of the respondents wish to engage in boating. The diverse interests might enable to manage the overcrowding by allocating future visitors among the park's activities.

WTP for entrance

It must be noted that the economic evaluation of the Hula Park cannot be achieved directly, since we are dealing with a yet non-existing environmental amenity. It can be accomplished, however, by using the Contingent Valuation Method (CVM) (Mitchell and Carson, 1989). In CVM, individuals are induced to state the maximum sum of money they would be willing to pay (termed Willingness To Pay, WTP), as entrance fee to the park, as if they were able to "purchase" the Park's amenities in a hypothetical market. The Willingness To Pay elicitation is often conducted in dichotomous choice framework. In our case interviewees were asked for their
willingness to pay 30 NIS (equivalent to 105$) as entrance fee for an adult. If they agreed, they were then asked for their WTP an higher sum; if they disagreed, they were asked their WTP a lower sum. 18% are willing to pay 30 NIS or more, 18% stated 40 NIS, 31.5% of the respondents stated that they are willing to pay 30 NIS (a possible ‘anchoring effect’, see Mitchell and Carson, 1989), 23% stated 20 NIS, and 10% stated 10 NIS. Only one respondent did not agree to pay any entrance fee. The mean payment is 31 NIS per adult. By aggregating WTP responses over the sample population, one may obtain an indication of the economic value of the environmental amenity.

SOCIAL CARRYING CAPACITY

In designing a park for outdoor recreation, the question of capacity is of importance. We have to distinguish between different types of capacity. Physical capacity is “the maximum number of persons who can occupy a site at one time” (Walsh, 1986). This number depends on the type of activities (e.g. football playing vs. picnic, where a picnic enables a higher number of people). Using only a physical criterion, however, could result in damage to the natural environment. Consequently, Ashworth (1984) refers to ecological capacity which depends on the environmental carrying capacity.

As social scientists, we are interested in social carrying capacity, namely the number of visitors which maximizes social benefit (i.e., satisfaction from the visit) of all visitors. Each user considers his or her benefit from the recreation experience net of the loss in benefits due to crowding (imposed by the presence of other users). If congestion is too high, it might result in net negative benefits. The user can adjust by moving to another site or by leaving. In our survey we measure the social carrying capacity by estimating the actual minimal distance between the interviewed group and the adjacent group. The findings show that 37% of the groups are less than 5 meters from the adjacent group, 29% are 5-10 meters, and another 20% are in the distance of 11-20 meters. The observed behavior reveals that closeness is acceptable (probably a characteristic of the Israeli culture). The interviewees were asked whether the other visitors interfere with their experience. For 87% of the respondents the near presence of other visitors does not generate a disturbance, for 11% it disturbs a little, and only for 1.5% it is very disturbing. The negative reaction was explained by crowding, noise, smoke from barbecue and dirt. Only further analysis will help underlie the reasons for the observed tolerance of crowding.

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REFERENCES


