A new look at the costs of outdoor recreation

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An undervalued issue?

In the field of the economics of outdoor recreation, special efforts have traditionally been made with regard to the evaluation of non-market benefits (i.e. the study of the "demand" side). Although this has unquestionably produced many very interesting results, from our point of view it has also led to the underestimation of another important aspect of economics i.e. the costs of outdoor recreation. Several publications have pointed out the multiple aspects of recreational costs (Loomis & Walsh 1997), including acquisition costs, operational costs, transaction costs, opportunity costs, congestion costs or even damage costs. For the reason outlined above, the costs that are neglected in market values (mostly congestion and damage costs) appear to have caught the attention of economists (Hanley *et al.* 2003). By comparison, other components of costs (acquisition, operational, transaction) have not received the attention they deserve and that they still lack sound economic analysis. Various reasons may be given: the data should be available *a priori* (in financial documents or contracts) or the subject should be relevant to engineering and not economics (because it refers to the installation of facilities which are generally designed and managed by technicians rather than social scientists). As a consequence, cost estimates frequently rely on *ad hoc* values (e.g. included in a local cost-benefit analysis) and little is known about their variability. In a world of scarce resources, costs definitely do matter. By comparison, significant efforts have recently been made in sectors such as environmental conservation (see the survey of Naidoo *et al.* 2006, for instance). Where do we stand today with outdoor recreation?

The neoclassical "production costs" framework

Most of the approaches that drive the analysis of recreational costs are based on traditional neoclassical micro-economic theory. This theory offers analytical tools to study the multiple dimensions of the recreational supply, such as factor productivity, scale economies, seasonal variations or multi-functionality (Loomis & Walsh 1997, Bowes & Krutilla 1989). According to Loomis and Walsh, various empirical strategies stem from this framework. Econometric approaches are one of them, though they are seldom used, despite their strong explanatory power and the multiple toolkits they offer. In this presentation, such a method is illustrated by the study of recreational costs evaluated on a sample of 8 recreational sites located in public forests (with an 11-year period). Several cost drivers are identified (areas, level of use, configuration of the sites, cycling paths) and estimations of the marginal costs of visits are given (between €0.01 and €0.07). Estimates significantly increase when the site's capacity is saturated. However, marginal costs remained below average operating costs, estimated at €0.24 per visit, which raises problems for the financing of management. Other less complicated methods based on simulated costs are also examined. One of these is applied in the study of peak-load pricing at a very popular recreational beach located in south-western France (that roughly received 600,000 visits a year). In this other case, the seasonal average cost values vary between €0.33 and €1.03 per visit. Visitors who actually use the site during peak periods should then take charge of the costs of extending the site's capacity.

Opening the "black box"

Although such indicators may be very useful for managers, the underlying theory suffers from two major limits, i.e. the supposed efficiency of the internal organization and the particular nature of the economic output (as usually measured by the number of visits). Whether access is provided by one or several stakeholders, efficiency is far from being guaranteed. On the ground, various forms of organization are observed, which are rarely based on efficient economic relations and inevitably impact the overall management costs. The latter point is illustrated with another original study on the evaluation of a local French public beach management policy. This work describes how moral hazards, subsidies, managers' motives and financial resources impact the cost structure. Such institutional "arrangements" remain key features of recreational supply. Turning to the definition of recreational output, it is important to recognize that, in many cases, the managers offer a "recreational opportunity" rather than a "final product". The level of the use that potentially impacts costs is therefore partly defined by visitors' preferences. This point may raise significant endogenous problems and invites us to look at a different analytical framework. In this respect, the work of Gadrey (2000) offers stimulating perspectives. Aimed at a better characterization of the economic nature of services, Gadrey's framework insists more on the social nature of the relationships that underpins the service, than on its technical properties (as defined in the traditional production function approach). Most of all, it addresses the situation of the "co-production" of services, both by consumers and by suppliers. Nevertheless, adaptations to the special case of recreation, with its implications on costs analysis, seem necessary.

Perspectives for future research

To conclude, three stimulating perspectives for future research are discussed: i) how to improve our knowledge on current recreational costs *via* a broader review of the international literature or some sort of meta-analysis; ii) how to devise a sound economic theoretical framework adapted to the recreational supply; and iii) how to introduce new variables for the monitoring of the recreational service.

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