A new study has proposed a method to place monetary value on green infrastructure at both a project and regional scale, which illustrates the value of investing in green infrastructure to the public and other stakeholders.

With increasing urbanisation

Using results from the EU VALUE project

To illustrate how this two-tier model could be applied, the researchers used a case study of a proposed green cycle route in Bruges, Belgium, which is expected to lead to a 5% increase in cyclists. The example represents only a few aspects of multi-functional green infrastructure – an approach which is aimed at directly improving ecosystem health and resilience and contributing to conserving biodiversity

and its subsequent negative effects on the environment, the need for green spaces is becoming increasingly recognised. Although it is difficult to define 'Green infrastructure', a network of open spaces, parks, waterways, trees and woodland that protect and enhance nature, and provide health and economic benefits, presents a possible solution to this problem. Decision makers need to know that investment in it will provide an economic return at both a regional and a community scale.
1, the study produced a combined local-regional economic valuation model for assessing green infrastructure investment. At the project level, the study applied a cost-benefit analysis, using the concept of 'Total Economic Value', which attempts to capture the value of the different components of natural resources. Costs considered by this approach include land purchasing costs, design and construction costs and maintenance costs of the infrastructure, whilst benefits include production and regulating ecosystem services such as air quality improvement and climate change mitigation, as well as improved health from cycling, reduced accident risks, as well as recreational benefits. At the regional level, a 'multiplier analysis' was used, based on an input-output approach to consider not only the positive impact on local industry, but

also on wages and the subsequent impact from better wages and job creation on the regional economy. 2. But it represents a type of project that contributes to the health and welfare of urban dwellers and brings environmental benefits to urban areas. Values were calculated for a 20 year timeframe. Examples of costs at the project-level were the construction of the bicycle road, indirect costs arising from tax increases and lost opportunity costs owing to farmers giving up land.

Evaluated benefits included the avoided car costs, tourist expenditure, improved traffic safety and positive health effects of cycling leading to lower health care costs and less absence from work. Alongside this were the environmental benefits effects of improved air quality and climate change mitigation. Using the cost-benefit approach, environmental benefits alone were estimated at €608,894 over 20 years, whilst the total value of green infrastructure at project level was estimated to be €1,707,169, which also included benefits from improved road safety, health and recreation. Regional additional effects were valued at €3,885,723, more than twice as high as the project effects. Most of the regional value is created by the multiplier effect of the investments in the project. The total value of the cycle belt is therefore €5,592,892, when project and regional values are combined over a 20 year period.

The researchers suggest that the model provides a useful complement to traditional cost-benefit approaches by highlighting the indirect economic benefits of green infrastructure. It can help convince stakeholders of the importance of investing in green infrastructure and allow policymakers to balance issues of community and economy growth, environmental protection and quality of life. They highlight that in addition to data limitations, the objectives of the evaluation will define or limit the inclusion of different types of benefits and costs in the evaluation exercise. If full benefits were included, such as stress reduction and emotional benefits, then the outcomes would be more positive, whereas if costs, such as automobile industry losses, were included, then the investment would seem less positive.

1. VALUE (Valuing Attractive Landscapes in the Urban Economy) is supported by the European Commission through the Interreg IVB programme. See: www.value-landscapes.eu

2. European Commission's webpage on Green Infrastructure. See: http://ec.europa.eu/environment/nature/ecosystems/index_en.htm

Source:

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