

The 'Sugden' Approach – Testing a Disaggregated Approach to Appraisal

Technical Summary: FD2018

Joint Defra / EA Flood and Coastal Erosion Risk Management R&D programme

Background to R&D project

Cost-benefit analysis is a key technique recommended in HM Treasury's Green Book, and is an important part of project appraisal for flood and coastal erosion risk management strategies and schemes. For a number of reasons, including ease of assessment, the current appraisal framework uses an aggregated approach to calculating costs and benefits – the social costs and benefits (SCB) approach. The SCB approach seeks to measure costs incurred and benefits created by a project in national economic terms.

The aim of this project was to investigate the feasibility of, and where appropriate develop proposals for, the improved appraisal framework proposed by Professor Sugden, Professor of Economics at the University of East Anglia, in his reports to Defra on "Developing a cost-benefit framework" for flood risk management and "Integrating cost-benefit analysis and multi-criteria analysis". This approach differs from the SCB approach, in that it seeks to measure the net welfare change (or net benefit) caused by the project for individual economic interest groups. The sum of the individual net benefits leads to the same value for net social benefits as the SCB approach once transfers have been taken into account in an appropriate fashion.

The main advantage of the disaggregated approach is that it presents the results in a format that shows more clearly how different economic interest groups (e.g. in a flood risk management context house owners, farmers, taxpayers) benefit (or not) from a project. It also shows how it affects different financial budgets (e.g. the budgets of different public bodies, and those of other project partners).

Results of R&D project

In this report we have tested and developed the approach recommended by Professor Sugden and we endorse the principle of making clear the various sources of funds and the distribution of benefits. We find the approach has the following advantages:

- The method provides greater transparency and more information to aid decision making.
- The approach supports both improved quality assurance of appraisals, and optimisation of option design



- It makes it clearer what has been monetised and included in the appraisal and what has not.
- It allows the benefit of schemes to individual businesses or groups of businesses to be identified and therefore may assist in negotiation of contributions from third parties.

Data are generally available to support the application of the approach and we believe the process is unlikely to involve significantly more work, although some costs would be associated with implementation. We have, however, identified a number of areas where further research, or policy input, is required. Our detailed recommendations address:

- Adoption of the disaggregated approach – including use of metrics and numeraire
- Methodology development – including consideration of an alternative approach to addressing income distribution by using average damage values to properties, and further development of the process through a live pilot, preferably one incorporating multi-criteria analysis
- Review of the wider appraisal processes – including review of checkpoints during the appraisal process, and the impact of the approach, in terms of increased transparency, on stakeholder communications.

R&D Outputs and their Use

We have developed an appropriate table of monetised costs and benefits and a consistent Appraisal Summary Table that would bring together the material for a final multi-criteria analysis. We have developed and tested templates for their use in appraisal. We have suggested a number of ways in which the appraisal methods and processes can be improved.

Whilst Defra and the Agency would welcome further proposals for trialling these outputs the recommendations in this report should not be taken as superceding current formal guidance at the present time.

This R&D Technical Summary relates to R&D Project FD2018 and the following R&D outputs:

R&D Technical Report FD2018/TR1 and 2 – The ‘Sugden’ Approach – Testing a Disaggregated Approach to Appraisal. Published March 2007.

R&D Project Records FD2018/PR1 and 2 – The ‘Sugden’ Approach - Background Reports

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The above outputs may be downloaded from the Defra/EA Joint R&D FCERM Programme website (www.defra.gov.uk/enviro/fcd/research). Copies are also available via the Environment Agency’s science publications catalogue (<http://publications.environment-agency.gov.uk/epages/eapublications.storefront>) on a print-on-demand basis.

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